

BRIDGEWATER STATE COLLEGE

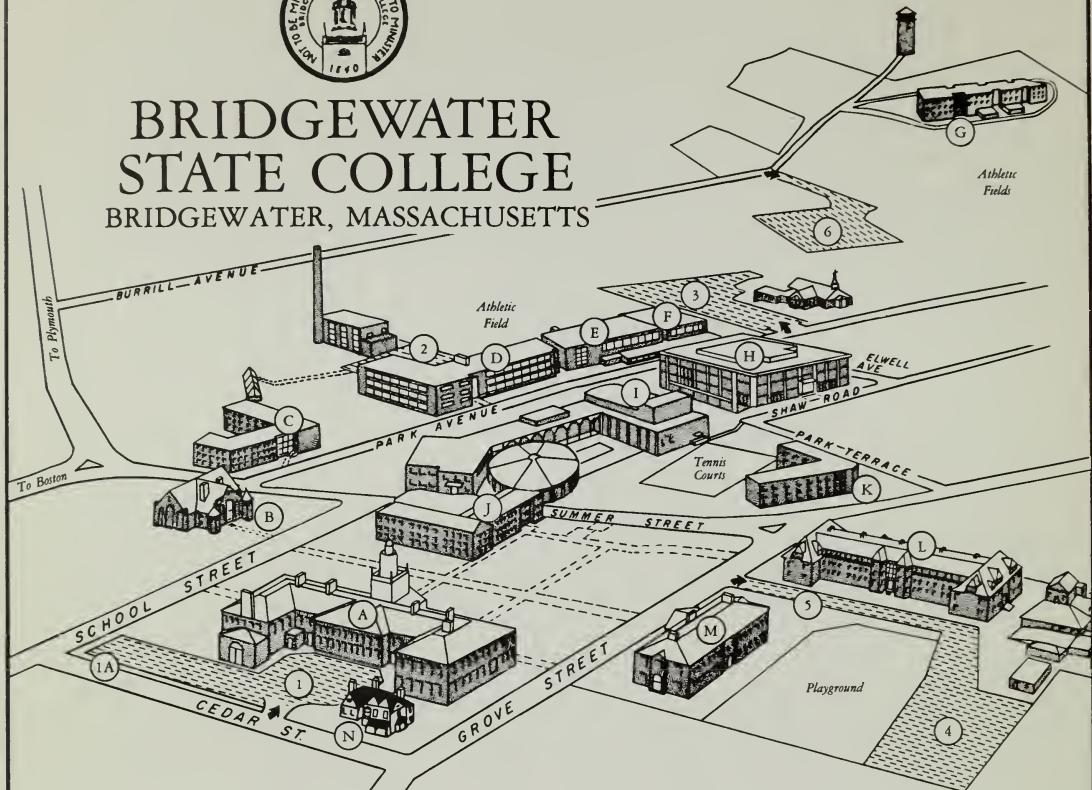


UNDERGRADUATE CATALOGUE 1972-1973



BRIDGEWATER STATE COLLEGE

BRIDGEWATER, MASSACHUSETTS

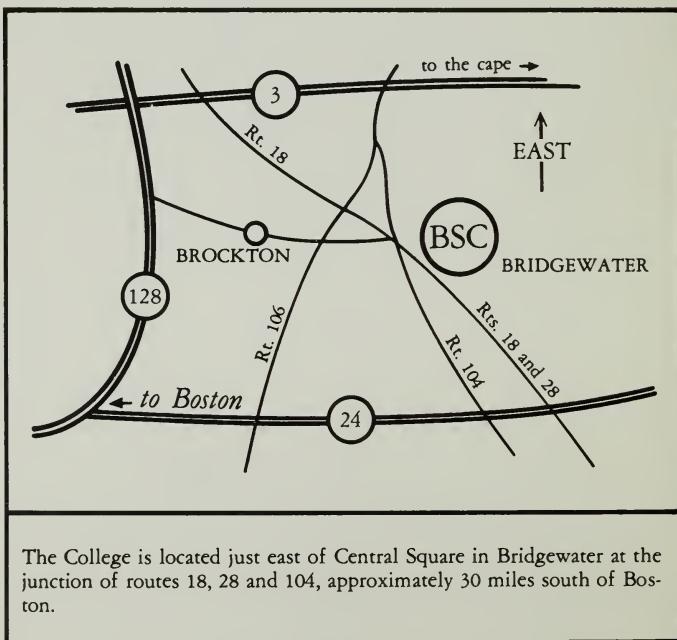


KEY:

- A. Boyden Hall
- B. Humanities Building
- C. Pope Hall
- D. Conant Science Building
- E. Kelly Gymnasium
- F. Olympic Pool
- G. Great Hill Residences
- H. New Maxwell Library
- I. Student Union Building
- J. Tillinghast Hall
- K. Scott Hall
- L. Woodward Hall
- M. Burnell School
- N. Gates House

PARKING AREAS

- 1 BOYDEN HALL LOT
- 1A CEDAR ST. LOT
- 2 SCIENCE BLDG. LOT
- 3 GYMNASIUM LOT
- 4 WOODWARD HALL LOT
- 5 BURNELL SCHOOL LOT
- 6 GREAT HILL LOT



The College is located just east of Central Square in Bridgewater at the junction of routes 18, 28 and 104, approximately 30 miles south of Boston.

BRIDGEWATER STATE COLLEGE

Behavioral Sciences

Natural Sciences and Mathematics

Creative Arts

Professional Education

Humanities

Social Sciences

***UNDERGRADUATE CATALOG 1972-1973**

May 1972

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*For Graduate and Continuing Studies programs consult the Graduate Catalog or Division of Continuing Studies List of Courses. The latter is published three times a year.

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1972

— ACADEMIC CALENDAR —

1973

SEPTEMBER

S	M	T	W	T	F	S
3	(4)	(5)	(6)	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JANUARY

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7	1	2	3	4	5	6
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OCTOBER

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FEBRUARY

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NOVEMBER

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MARCH

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DECEMBER

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APRIL

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MAY

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27	28	29	30	31		

 registration days
 holidays
 examination days
 end of quarter
 Commencement
 Opening of semester

CALENDAR FOR THE ACADEMIC YEAR 1972-1973

FIRST SEMESTER—1972

September 5	(Tuesday)	General Faculty and Department Meetings. Registration—Seniors, Juniors, Specials, Transfers.
September 6	(Wednesday)	Registration—Sophomores and Freshmen.
September 7	(Thursday)	Opening of Academic Year—Classes begin at 8 a.m.
September 12	(Tuesday)	College Committee Meetings.
September 19	(Tuesday)	Fall Convocation.
October 9	(Monday)	Columbus Day—no classes.
October 23	(Monday)	Veterans' Day—no classes.
October 27	(Friday)	End of First Quarter.
November 6-17		Preregistration for Second Semester.
November 22	(Wednesday)	Thanksgiving Recess— Classes suspend at noon.
November 27	(Monday)	Classes resume at 8 a.m.
December 15	(Friday)	First Semester Examinations begin.
December 22	(Friday)	First Semester Examinations end. First Semester ends.
December 25 to January 11, 1973		Christmas and Intersemester Recess.
SECOND SEMESTER—1973		
January 12	(Friday)	Registration—Seniors, Juniors, Specials, Transfers.
January 13	(Saturday)	Registration—Sophomores and Freshmen.
January 15	(Monday)	Second Semester. Classes begin at 8 a.m.
February 19	(Monday)	Washington's Birthday—No classes.
March 9	(Friday)	End of Third Quarter—Spring Recess. Classes suspend at 5 p.m.
March 26	(Monday)	Classes resume at 8 a.m.
April 16	(Monday)	Patriots' Day—No classes.
April 20	(Friday)	Good Friday—No classes.
April 23—May 4		Preregistration for First Semester, Fall, 1973.
May 8	(Tuesday)	Honors Convocation.
May 17	(Thursday)	Second Semester Examinations begin.
May 25	(Friday)	Second Semester Examinations End. Close of Academic Year.
May 27	(Sunday)	Commencement Day.

THE BRIDGEWATER PURPOSE

Bridgewater State College shares the national tradition of providing high quality education supported in large part by the State. Serving qualified students throughout the Commonwealth and particularly those living in the southeastern area, this College is committed to encouraging the broad educational preparation which is equally essential for making a maximum contribution to profession, community, and nation, and for developing a sound personal life. While maintaining its historical concern for preparing teachers, Bridgewater also dedicates itself to the education of students who may be interested in other vocations and professions.

Bridgewater strives to provide an atmosphere of integrity, justice, and social concern, and to develop within the student a self-discipline which will be evident beyond the classroom. In addition to stimulating his intellectual curiosity, Bridgewater State College also provides the student with the opportunity to understand and appreciate the major contributions to man's knowledge of himself and of the physical and social world in which he lives.



Bridgewater State College is accredited by the New England Association of Schools and Colleges, Inc. and the National Council for the Accreditation of Teacher Education and is on the Approved list of the American Chemical Society.

HISTORY OF THE COLLEGE

Bridgewater State College, a fully-accredited, internationally-recognized multi-purpose institution, served some nine thousand students in 1971. It was founded in 1840 with an initial enrollment of 28. Undergraduate students for the academic year of 1971-1972 numbered 3600; Continuing Studies and the Graduate School added 3300 more; and summer sessions at Bridgewater and Hyannis another 2100.

It all began in the second quarter of the nineteenth century which was a period of tremendous political and intellectual growth in the United States and movements toward more popular government, the extension of the franchise and the "rise of the common man" made urgent the need for better public schools and better trained teachers.

Horace Mann, already a distinguished Boston lawyer, in 1837 resigned from his practice and became the first Secretary of the Massachusetts Board of Education. With the support of such educational leaders as James G. Carter of Lancaster, the Reverend Charles Brooks of Hingham, and the Honorable Edward Dwight of Boston, he persuaded the General Court to establish three normal schools for the training of teachers on a three-year trial basis.

Bridgewater was the third of these and, six years later, was the first normal school in America to have a building erected specifically for its own use. It is also the first permanent location of teacher education in America.

"Coiled up in this institution as in a spring" said Horace Mann at the dedication of the building, "there is a vigor whose uncoiling may wheel the spheres."

Nicholas Tillinghast, a graduate and former instructor at West Point Military Academy, became the first principal. Seven men and 21 women were admitted to Bridgewater's first class on September 9, 1840. Mr. Tillinghast served for thirteen years and when he retired the school was no longer an experiment, but a well-established part of the State's educational system. Its students were already taking the lead in establishing normal schools in Rhode Island, Illinois and Missouri.

Marshall Conant, the second principal (1853-1860) effected many changes in the curriculum especially in the areas of history and the sciences.

Albert Gardner Boyden (1860-1906) instituted a period of growth and development that was continued by his son and successor, Arthur Clark Boyden (1906-1933). Under the Boydens, Bridgewater drew students from all over the United States, Europe, Latin America, Japan and Burma. Teacher training schools in Armenia and Japan in particular owe their establishment to Bridgewater graduates of this period.

Each of the succeeding presidents, Dr. Zenos Scott (1933-1937), Dr. John Kelley (1937-1951), Dr. Clement C. Maxwell (1952-1962), and Dr. Adrian Rondileau (1962-) has brought to Bridgewater the particular leadership needed during his administration, thus endowing the College with an extraordinary continuity of development.

In 1921, Bridgewater was one of the first five normal schools in the State to be

empowered to award the Bachelor of Science in Education degree to any person completing a four-year course.

In 1932, Bridgewater, together with other State normal schools became a State Teachers College.

In 1937 the Graduate School was established. The Division of Continuing Studies was added in the late 40's thus making available courses during the afternoons and evenings.

In 1960, by act of the Massachusetts Legislature, all state teachers colleges became State Colleges, thus allowing the expansion of the curriculum to make possible the granting of Bachelor of Arts as well as the Bachelor of Science in Education degrees.

Bridgewater State College now offers these plus the Master of Arts in Biology and in History, and the Master of Education in Elementary Education, Elementary School Mathematics, Guidance, Instructional Media, Health Education, Reading, School Administration, School Librarianship, Special Education, and Secondary Education with twelve areas of concentration.

In the past few years over \$20 million dollars has been invested in new buildings and educational equipment for the College and another \$20 million or more is allocated or anticipated for the near future thus making Bridgewater State College one of the best equipped educational institutions in the state.

In the words of Albert Gardner Boyden, "Thank God for the Bridgewater spirit of progress, of enlargement of culture, of devotion, of service, of inspiration which has quickened so many thousands of young lives. It has been the animus of the institution from its very beginning and is marching on to multiply its achievement."

A Beautiful Campus

Through the combined efforts of Administration, Faculty, students, alumni and government officials, two very beautiful buildings were made possible during the past two years.

Newest of them to grace the two-hundred acre campus is the \$6 million dollar Clement C. Maxwell Library. It is named for Dr. Maxwell, President of the College from 1952 to 1962, who believed that a "library is the heart of a College" and who strove diligently for its becoming a reality. The old library, which was named for him a few years after he retired in 1962, now houses the Humanities Division. In addition to eleven classrooms, a small auditorium and a media center, the new library has a large reception area, offices, a paneled conference room and a browsing room. A typing area for students is provided; and scattered throughout the building are some 400 individual study areas. Student lounges are located on the third and fourth floors and there are provisions for a rare books room, a special documents depository and space for exhibits and arts shows. The Library Science Department of the college is on the second floor.

Also new within the past two years is another \$6 million dollar structure, the Student Union Building Complex, located across a beautiful mall from the Library and facing the

Marshall Conant Science Building on Park Avenue. This new complex was designed to serve the varied social and cultural activities of the campus. The theatre wing houses a 1,450-seat auditorium with stage equipment rivaling that of most professional theatres, and with dressing rooms, rehearsal rooms, shop area, costume room, a "Green" room, TV and radio studios, listening booths, offices and classrooms for the Speech and Theatre Department. The center building contains spacious lounge areas, conference rooms, a large conference-reception room capable of handling nine hundred people for dinner, dancing or conferences, a snack bar and formal dining room. The cafeteria wing has, besides the 750-seat cafeteria, a Student Government Room, offices for the College newspaper, hobby shop, a glass-blowing shop, offices for various campus organizations, game rooms for pool, ping-pong and cards, plus the large, new Rathskellar in process of construction.

Looking west across a spacious College quadrangle one sees the elegant Administration building, Boyden Hall, with its imposing white columns against ivy-colored red brick.

The Horace Mann Auditorium, which takes up one wing of Boyden Hall, is used for smaller groups now that the Student Union Auditorium is available for larger College entertainments.

Close to the Administration Building, on the corner of Grove and Cedar streets, is Gates House, the home of the Presidents and now the residence of Dr. and Mrs. Adrian Rondileau.

Across the street is the Martha M. Burnell School, the laboratory school for Bridgewater students engaged in the Bachelor of Science in Education curriculum. The school provides four grades and a kindergarten where juniors do their student teaching under supervision, and where classes from the College can observe demonstration lessons by the Burnell School faculty.

Facing the new library across Park Avenue is the John J. Kelly Gymnasium which contains two gyms, an Olympic-sized swimming pool, classrooms and offices of the faculty of Health and Physical Education.

West of the gymnasium is the Conant Science Building, and beyond it, some truly magnificent botanical gardens and a well-equipped greenhouse.

Fine Residences

Newest of the residence halls are the two opened in 1967 on Great Hill. Durgin Hall accommodates 300 men while Great Hill Residence has 300 women. The lower floor of each building contains reception rooms, a conference room, music room, post office, laundry room and a vending machine room. A cafeteria for the use of both men and women is located in the men's residence hall.

First of all the residences was Tillinghast Hall, home of 82 women students and named for the College's first principal, Nicholas Tillinghast. It stands on a corner of the quadrangle between the Administration building and the Student Union and includes the College dining hall that serves students from the lower campus. There are two suites and all of the rest are single rooms. The spacious reception room on the first floor is used for teas, meetings and social functions of many kinds.

At the corner of Summer and Grove Streets, on the Lower Campus is Scott Hall, residence of 100 men students, and Woodward Hall, named for Eliza Woodward, a revered teacher who served the College for many years. Woodward Hall has three floors containing 85 double and triple rooms and accommodates approximately 200 women students.

Across the campus on Park Avenue between the botanical gardens and the Humanities building is Pope Hall, named for S. Elizabeth Pope, former Dean of Women and still a beloved friend of the College. This residence contains all double rooms and houses 114 women. A cafeteria and the College Infirmary is on the first floor. All of the residences have reception rooms, laundry facilities and are equipped for the greatest comfort of their occupants.

And Modern Educational Equipment

Bridgewater State College has some of the most modern and extensive educational facilities in the East, providing a wealth of advantages for students.

The New Maxwell Library is fully-air-conditioned, accommodates 2,500 students at one time and has a capacity of 425,000 books. It now has approximately 89,000 volumes and subscribes to well over 1,000 periodicals and newspapers. These are supplemented by microfilm and microfiche holdings and the viewers and reader-printers necessary to utilize them. The library subscribes to ERIC, a nation-wide pooling of information on education and allied social sciences, and also has available facilities to produce ERIC materials. Indexes and abstracts are available in specialized areas to support curriculum needs and there is a large reference collection. Suggestions from students for new acquisitions are given careful consideration and all books are selected in consultation with Faculty. A curriculum center for teachers in training and in the field offers a large sampling of current texts, and materials interpreting trends and research in the area of education.

There are the following special collections:

- (1) an extensive collection of children's books;
- (2) the Theodore Roosevelt Collection, donated by Dr. Jordan Fiore;
- (3) a Dickens Collection, willed by the late Dr. Maxwell; and,
- (4) on microfilm, the 20,000 volume "Library of American Civilization" and the 2,500 volume "Library of English Literature: Beginnings through 1660." There is also a special collection of
- (5) books about Bridgewater or by Bridgewater authors.

Maximum accessibility to materials is provided through open stacks for all books and reference materials; by an inter-library loan service among Bridgewater State College, Wheaton College, Southeastern Massachusetts University, and Stonehill College; by a centralized, divided card catalog; and by the presence at all times of a professional reference librarian. Study is facilitated by 60 dial access carrels located throughout the library and by the availability of listening rooms. Thirty additional carrels are designated for use by faculty or for students by special arrangement.

The Marshall Conant Science Building houses a wealth of modern equipment for the use of students in the Division of Natural Sciences and Mathematics. For example, there's the newly-acquired Varian T-60 nuclear magnetic resonance spectrometer with computer of average transits in the Chemistry Department; the Norelco X-ray diffractometer with powder camera and Laue camera for Earth Sciences and Geography; an AEC-approved laboratory for nuclear physics; a Digital Equipment Corporation PDP-8/I computer; an astronomical observatory with an 8-inch reflecting telescope; five acres of botanical gardens, and a 20 x 80 foot greenhouse; plus much more that the reader will find itemized under the various departments.

The outdoor athletic field, now under construction will be in operation, partially if not completely, by the opening of the September 1972 semester when the College plans to include men as well as women in its long-established physical education major. The sum of \$750,000 has been appropriated by the State Legislature for the purpose. When completed, there will be the much-needed football and soccer field combination with a running track and an area for field and track events. There will be also sixteen additional tennis courts bringing the total to twenty; two hockey fields and a lacrosse field; four softball fields; two soccer fields; two football fields; a baseball diamond, and areas for archery, golf classes, and skiing. Space is being assigned also to provide additional parking. The existing outdoor basketball court is being retained. The new fields will be used for instructional, recreational, and inter-collegiate activities and, it is hoped, for Town participation to whatever extent is possible. Some of the area of forty-four acres is being left as open space and will remain wooded but cleared to allow for nature walks, bicycling and such.

The John J. Kelly Gymnasium has two gymnasiums and, also, an Olympic-sized swimming pool where not only the College but the community swimming programs are being held.

The College Bookstore, on the main floor of the Student Union Building, is open during the regular academic year from 9 a.m. to 7:30 p.m., Monday through Thursday; 9 a.m. to 5 p.m. on Friday and from 10 a.m. to 1 p.m. on Saturday. Summer hours are 8:30 a.m. to 4 p.m., Monday through Friday. It offers the College Community a complete textbook service dealing in new and used textbooks; an extensive paperback presentation in a variety of subject matter; stationery and school supplies, gift and boutique items, photographic supplies and service; typewriter sales, service, and rentals; clothing and art supplies, and many other items that serve the personal convenience of student life.

STUDENT SERVICES

Students have problems and needs that often require special forms of help or personal guidance at different stages of college experience. Among these are questions and concerns about one's educational program and academic achievement, housing, finances, health, social adjustment, part-time work, and post-college study or employment.

To assist students in making adjustments, wise decisions, and intelligent plans, the College has provided professional staff services in the major areas of student needs.

Orientation

During pre-registration the orientation of students new to Bridgewater State College begins. Students are then advised on their academic program and given opportunities to meet each other and the faculty. An orientation course for all freshmen is required with class meetings once a week throughout the first semester of the college year. Discussion centers around the philosophy and resources, the standards, requirements, policies, and traditions of the College. The program includes assemblies, discussion meetings, activities of various kinds, and get-togethers in informal settings, planned and carried out by students, faculty, and administrative staff.

General Counseling

The faculty-student relationship is the center of college counseling, for it is the faculty who are best qualified to guide the student in his academic and professional growth. Each freshman is assigned a faculty adviser. Additional guidance by a professional counselor may be arranged either through the Office of Student Personnel or through the Clinical Psychologist. For advice with regard to health matters, students may confer with the members of the College Health Service Staff. If psychiatric assistance is needed, appropriate arrangements may be made to secure such help.

Academic Counseling

Faculty counselors, departmental advisors, and the college professional counselors are available to students with academic problems.

The Faculty Committee on Academic Standing also offers counseling services. It interviews students whose academic standing is unsatisfactory at the end of each semester to determine the probability of success if the student is allowed to continue. To those students dismissed for academic reasons, the Committee frequently offers suggestions for other academic or vocational preparation.

Social and Cultural Events

A wide variety of activities are sponsored by college and student organizations to meet the many different needs and interests of the college community. Through formal and informal activities, plays, recitals, exhibits, concerts, dances, forums, speakers and off-campus trips, opportunities for enrichment are ever present. Such activities help students develop understandings and skills that enrich and extend classroom learnings and form an integral part of the college program.

Intercollegiate, Intramural and Recreation Programs

The physical education departments provide a wide range of inter-collegiate, intramural and recreational activities for men and women. The objectives of the programs are to promote qualities of leadership and sportsmanship; enhance emotional and social development; and provide opportunities for the development of physical skills.

Intercollegiate athletics play an important part of life on the College campus. They provide for a high level of competition with other colleges in the eastern part of the United States. Intercollegiate sports for men include: baseball, basketball, cross country, football, golf, ice hockey, swimming, tennis and track. Those for women include: basketball, field hockey, lacrosse, softball, tennis and volleyball.

The intramural program also provides competitive experiences in a variety of team and individual sports and includes modern dance, swimming, and gymnastic clubs.

The recreation program provides many opportunities for social involvement. Some of the highlights of the program include mountain climbing, camping, biking and skiing trips as well as many seasonal activities.

Health Services

A hospital suite is located on the first floor of the S. Elizabeth Pope Hall. The services of a nurse are available to all students of the college twenty-four hours each day, seven days a week. A doctor is on duty three days a week for four hours each day.

Vocational Placement Service

The Placement Service assists in referring seniors to employers for full-time job opportunities, and in placing alumni in their major fields of concentration. In addition, on-campus interviews are arranged for students in their senior year. These services are available without charge to all students and alumni who register at the Guidance Office or Placement Office.

Student Employment

Opportunities for part-time employment are available for students who wish to earn money while studying at the college. Applications may be procured from the Guidance Office, the Student Union Directors Office, the Food Service Manager, the Librarian's Office or the Physical Education Department.

Religious Groups

In the neighborhood of the campus there are available various religious groups and churches, Catholic, Protestant, and Jewish, with which interested students may affiliate. A listing of these can be obtained in the Office of the Dean of Students.





OF TRADITIONAL AND MODERN



A PLEASING BLEND









ON-CAMPUS LIVING



HAS WARMTH AND DIGNITY



ADMISSIONS

The selection of students who have the ability and preparation and who will most likely be successful in college studies is the basic aim of the admissions requirements.

Requirements

Each candidate is considered on the basis of the following requisites:

A. *Secondary school preparation.* Candidates for admission must have a high school diploma from an accredited secondary school or equivalent preparation. The high school record must certify completion of sixteen units (one unit representing the study of a subject four or five periods a week for a full school year) accepted by the high school in fulfillment of graduation requirements, or the candidate must present evidence of equivalent preparation.

The 16 high school units must include:

English (Including Grade XII)	4 units
American History and Government	1 unit
College Preparatory Mathematics	2 units
Biology, Physics, or Chemistry	1 unit

Bachelor of Arts candidates must also have two units in a foreign language. Bachelor of Arts candidates desiring to major in Mathematics must present 3 units in College Preparatory Mathematics.

B. *College Entrance Examination Board.* All candidates must supply the following information:

- a. The College Entrance Examination Board's Student Descriptive Questionnaire (SDQ).
- b. All candidates must take the College Entrance Examination Board Tests and request that the results be forwarded to Bridgewater State College.
 - 1) All B.S. and B.A. candidates must take the Scholastic Aptitude Test
 - 2) All B.A. candidates must take an achievement test in a foreign language studied at the high school level representing at least two units of study.
- One test in the intended major area of study or in an area related to it.

NOTE: Candidates who have taken only Latin or Portuguese are excused from taking the language achievement test.

- c. Three achievement tests must be submitted by all candidates.
- d. All tests should be taken by January.

C. Personal Qualifications

1. Personal Recommendations. Confidential data concerning the candidate, including the recommendation of the high school principal and comments by teachers, are given consideration in determining the fitness of the candidate for the proposed program of study.

2. Health. The candidate, if a teacher-training program is his intended area of study, must be in good physical and mental health, free from any disease, infirmity, or other defect, which would render him unfit for public school teaching. All candidates, regardless of the intended area of study, are required to have a health examination prior to entrance. Information concerning such examinations is forwarded to prospective students after notification of acceptance.

Procedures

- A. An application form and other necessary information may be obtained from your school or from the Office of Admissions, Bridgewater State College.

- B. An official transcript of the candidate's secondary school academic record and personal rating record must be submitted by the high school. The academic record must include the grades of the first marking period or first quarter of the candidate's senior year.

Dates of Admission

Bridgewater State College is on a "rolling admissions" policy. There is no one date on which the College notifies all applicants simultaneously of their acceptance. Candidates are notified on a continuing basis over a period of several months, beginning about January 15.

If the number of qualified applicants exceeds the number that the facilities of the college will accommodate, a waiting list is established. The position of a candidate on the waiting list is determined by his total evaluation.

Those candidates who have not met the requirements for admission by March 15 may jeopardize their chances of receiving consideration for acceptance since the College has the authority to close freshman admissions at this time.

Residence Hall Placement

The requests for residence hall placement far exceed the actual openings available. Placement is based on the total evaluation of the candidate and the distance from one's permanent place of residence.

Transfer Admission

1. Applicants for transfer to Bridgewater will be evaluated for admission on the basis of their previous College academic record.
2. Bridgewater will accept credits of a C or better earned in equal or comparable courses at the institutions of public higher education in the Commonwealth. (Maintenance of a C average does not insure transfer to Bridgewater).
3. Whenever possible, degree credit will be granted for course work completed at Massachusetts institutions of public higher education. Courses which do not fit the degree program may be counted as fulfilling the open elective requirements of the four-year curriculum. The transfer student will be required to fulfill the same degree requirements as any other student.
4. Honors courses, programs of independent study, or Advanced Placement and College Level Examination Program (CLEP) advanced standing credit earned at another Massachusetts institution of public higher education will be accepted at Bridgewater.
5. Ordinarily a student is expected to complete a minimum of two academic years (i.e., one half) of his work at the College, and in no case will the College grant its baccalaureate degree with less than one full year of academic work taken at Bridgewater State College.
6. The number of transfers accepted by Bridgewater will be determined by existing vacancies in the various degree programs and the number of applicants determined eligible under the above guidelines. Among equally qualified and eligible transfer applicants, priority in admissions will be as follows:
 - a) First priority is given to transfer students in good standing from within the State College System.
 - b) Second priority is given to qualified transfer applicants from Community Colleges.

All applications must be filed by December 1st for February; April 1st for September.

Massachusetts State Colleges Policy on Non-Discrimination

It is the stated policy of the Board of Trustees of the Massachusetts State Colleges that in matters of college admissions, the employment of professional and non-professional personnel, and all other personnel matters in the State Colleges, individuals will be evaluated on their merits without respect to their race, color, creed, national origin, age, or sex, as prescribed in applicable federal and state law.

The College reserves the right to change admissions requirements at any time without advance notice.

Program for the Recruitment and Retention of Special Students (PROGRESS)

Established for high school graduates who have both the desire and potential required for a college education, but due to certain circumstances have not been properly prepared to undertake a regular freshman program. Motivation plays a great part in the success of a student in this special program. All potential students should strongly identify with all educational objectives, as they may require longer than the usual time (4 years) to graduate.

The Scholastic Aptitude Test (SAT) should be taken even though no great emphasis will be placed on the scores when determining admission to PROGRESS. The high school performance of these students will be judged on the basis of identifiable achievement patterns over their four year high school experience rather than on class standing or rank.

Letters of recommendation from guidance counselors, teachers, and, in some cases community leaders, should be of great assistance while we are evaluating an applicant's ability to do college work.

It is expected that a very high percentage of the students enrolled in PROGRESS will be Black Americans, but this is not to be construed to mean that other ethnic groups will be ineligible for consideration of enrolling in PROGRESS.

Each student will be assigned an academic advisor, and he will be encouraged to carry courses and course loads suitable to his individual needs. Each student must carry at least nine semester hours, but no more than fifteen semester hours in any one semester.

Tutorial services will be available, where needed, for all courses. The courses taken by these students will be of the same content and of the same academic rigor as those taken by all students at Bridgewater. No distinction will be made. When the student is eligible for graduation, he will have met the same degree requirements as have all Bridgewater graduates.

The financial assistance available, at this time, are the federal aid programs: 1. Economic Opportunity Grant, 2. National Defense Student Loan, 3. College Work-Study Program and State Tuition Subsidies. The amount of financial assistance each student will receive is dependent upon his individual need as demonstrated in the standard financial aid application form (Parents Confidential Statement).

FINANCIAL INFORMATION: EXPENSES

The following summary indicates as nearly as possible the regular expenses for which each student must plan in an annual budget:

Tuition Fees for Residents of Massachusetts

1. \$200.00 a year payable in two installments at the beginning of each semester.
2. \$7.00 a semester hour—Courses for part-time day students.
3. \$18.00 a semester hour—Program of Continuing Studies.
4. \$11.00 a semester hour—Auditor in Program of Continuing Studies.

Tuition Fees for Non-Residents of Massachusetts

1. \$600.00 a year payable in two installments at the beginning of each semester.
2. \$21.00 a semester hour—Courses for part-time day students.
3. \$25.00 a semester hour—Program of Continuing Studies.
4. \$11.00 a semester hour—Auditor in Program of Continuing Studies.

Initial Admission Registration Fee

Each applicant for admission to Bridgewater State College must pay a registration fee of \$50.00 following notification of acceptance of admission. This fee will be deducted from the tuition of students who attend and will be forfeited by those who do not attend.

Textbooks and Supplies

Students are expected to purchase all necessary textbooks and supplies at an approximate expense of \$150.00 a year.

Board and Room (In effect for 1971-1972 and subject to change for 1972-1973 and subsequently.)

Each applicant for a residence hall reservation must pay a deposit of \$50.00 following notification of admission. This deposit will be deducted from the total residence hall fee of students who attend. It will be forfeited by those who do not enroll. Students who enroll for residence and then decide to commute will also forfeit their deposit.

Rates for residence hall accommodations range from \$370.00 to \$520.00 per year depending on the facility occupied by the student. The dining hall charge for the year is \$480.00 (including weekends). All students residing in College residence halls must subscribe to the College Dining Hall charges. Payments are required in two installments payable at the beginning of each semester. These charges, like all others, are subject to change at any time by the Board of Trustees. After one day of residence, semester room rents are non-

refundable whether a student leaves the residence to commute or to withdraw from the College.

Students who are assigned to residences will be required to pay a \$25.00 "Dormitory Damage Security Deposit." Damages specifically performed by an individual student or an identifiable group of students will be billed at the time of the assessment of damages. General and assessable damages will be prorated and will reduce the amount of the students' security deposit. Restoration of deposits will be made if determined necessary. Unused deposits shall be refunded to the students.

Other Expenses

A library fee of \$5.00 per semester is required of all students.*

A laboratory fee of either \$5.00 or \$10.00 is charged in all laboratory science courses and in a number of studio and practicum courses in which consumables are used and/or breakage is incurred. This fee is non-refundable.

An annual Commencement Fee of \$2.50 is required of all full-time students. Upper-classmen transferring to Bridgewater State College must make up the annual payments they have missed so that by graduation all students will have paid the sum of \$10.00 which is used to defray Commencement Day expenses.

Certain student enterprises which are supported by all the students are financed by means of the Student Activities Fee, which is payable at the beginning of each college year. This fee, presently \$25.00, is mandatory.

A physical education fee of \$12.00 is required by all freshmen and all transfer students who have not fulfilled the physical education requirement. This fee covers towels, bathing suits (women only), locker and service privileges at the gymnasium.

The required gymnasium outfit for women in the regular curriculum, consisting of special uniform and shower equipment, costs approximately \$50.00. Full description with blanks for ordering will be sent out with notification of admission.

The required physical education outfit for men includes a jersey, gym shorts, sweat pants, sweat shorts, athletic supporter, gym socks, shower clogs and towels, the approximate cost of which is \$15.00. All men entering as freshmen or as transfer students will be informed of the procedure for providing information on sizes to the dealer furnishing the uniforms.

An annual athletic fee of \$27.00 is required of all full-time students. The fee is used to underwrite the cost of the intercollegiate and intramural sports programs for both men and women.*

A \$5.00 placement service fee is required of all seniors.

A late registration fee of \$5.00 shall be assessed on students who register after the

*The above non-refundable fees must be paid by all full-time students who are in attendance for all or part of the academic year.

official college registration period.

A required annual Student Union Building fee of \$35.00 per year.*

A total cost of \$10.00 will be assessed on all freshmen and transfer students for I.D. cards.

Refund Policy for Official Withdrawal from the College

Tuition and Food Service:

80% within the first two weeks of classes;

60% during the third through sixth week.

After the sixth week of classes no refund is allowed.

Residence Hall:

No refund for room charge will be given *after one day of occupancy*.

Federal Assistance Programs

Bridgewater State College participates in three federally sponsored programs of financial aid. For students accepted for admission who show a proven financial need, funds are available in the National Defense Student Loan Program (N.D.S.L.) which allows the student to borrow money as an undergraduate or a graduate student. Repayment of the loan at 3% interest begins 9 months after graduation and may extend over a 10-year period. Special cancellation is allowed at 10% or 15% per year for students who go into the teaching profession.

For students who show an exceptional financial need, the Economic Opportunity Grants (E.O.G.) program is available. Up to one-half of the total financial need may be awarded in a grant to the exceptionally needy student. These grants are renewable providing the student makes application each year and continues to show the same proven need.

A third program for the needy student is the College-Work Study Program (E.O.P.). Students are assigned to various departments or agencies on and off campus and are paid an hourly rate, in accordance with campus policies and Federal regulations.

Particular attention should be given to the Massachusetts Board of Higher Education Scholarship. Students intending to apply for financial assistance at Bridgewater State College must as a pre-requisite for application, apply to the Massachusetts Board of Higher Education to enroll in their Scholarship Program. This Two Hundred Dollar (\$200.00) Scholarship for Massachusetts residents requires both a Parents' Confidential Statement and a Massachusetts Board of Higher Education Scholarship Form. These forms can be obtained in High

*The above non-refundable fees must be paid by all full-time students who are in attendance for all or part of the academic year.

School Guidance Offices or write to:

Board of Higher Education
Scholarship Office
182 Tremont Street
Boston, Massachusetts 02111

Opportunities also exist for student employment on campus not related to the Federally sponsored program of College-Work-Study. Applications for student employment in the College Bookstore, Library, Dining areas, Student Union, and Physical Education department can be obtained in the Financial Aid Office.

The Massachusetts Higher Education Loan Plan (H.E.L.P.) is another source of financial assistance for the education of students from middle or upper income families. A student may borrow up to \$1,000.00 a year, but not in excess of \$5,000.00 for an undergraduate program. In addition he may borrow \$1,500.00 a year for a graduate program, but not in excess of \$7,500.00 total for both undergraduate and graduate program. Students who wish to apply for H.E.L.P. loans should go directly to their local banks to obtain the necessary application forms. Inquiries regarding this program should be addressed to:

Massachusetts Higher Education Assistance Corporation
511 Statler Building
Boston, Massachusetts 02116

Since Bridgewater State College is a participating member of the College Scholarship Service of the College Entrance Examination Board, all loans, grants, and work-study awards are made on the basis of demonstrated financial need as determined by the need analysis system derived from information supplied in the Parent's Confidential Statement. All applicants may obtain the Parent's Confidential Statement through their high school guidance counselors, or the college of their choice. Parent's Confidential Statements should be mailed to College Scholarship Service, Box 176, Princeton, New Jersey, 08540 no later than March 15 preceding the academic year for which they have been accepted. Supplementary applications for financial aid should be requested by writing directly to the Financial Aid Officer, Bridgewater State College, Bridgewater, Massachusetts 02324.

ACADEMIC POLICIES

The regular academic year consists of two semesters of sixteen weeks each. Curricula leading to baccalaureate degrees are so planned that a student pursuing a normal program will ordinarily be able to complete the requirements for graduation in four years or eight semesters.

Graduation Requirements

Degrees will be awarded to candidates who have fulfilled the following:

- 1) at least 120 semester hours of credit, distributed according to requirements of either the Bachelor of Arts or the Bachelor of Science curriculum;
- 2) any additional semester hours of credit required for the major program in which the candidate has matriculated;
- 3) completion of at least one year of residence at Bridgewater;
- 4) a cumulative grade point average of 2.0;
- 5) clearance of all financial debts to the College.

Degree Applications

All students who expect to receive their degree from Bridgewater State College are required to complete a formal degree application. These applications are available in the Registrar's Office.

Students should obtain the application during the second quarter of their senior year, and with their Department Chairman's assistance, complete and return the application to the Registrar's Office no later than December 1 of that year.

Grading System

The college uses the traditional letter-grade system of marking to indicate the student's relative performance; Superior—A; Good—B; Satisfactory—C; Poor—D; Failure—E; WP—Withdrawn Passing; WF—Withdrawn Failing. In computing averages, grades are assigned the following numerical values: A—4; B—3; C—2; D—1; E—0. Promotional averages are annually cumulative: for freshmen to advance to sophomore status, an average of 1.5 is required; to advance to junior status, an average of 1.75; to advance to senior status and to be eligible for graduation, a cumulative average of 2.0 is required.

An incomplete shall be given only when a student has missed the examination for good reason or has not completed a major assignment which can be finished within a short time. Incompletes must be made up no later than the fourth week of the regular academic semester following that in which the Incomplete was recorded. A grade of "E" will automatically be entered on the transcript of any student who fails to meet this requirement.

All courses failed at Bridgewater and subsequently passed either in the day or evening sessions at Bridgewater shall be utilized in quality point ratios. Semester hours for a course

failed and later passed at Bridgewater shall be used only once in computing the Q.P.R., and an average of the grades achieved in both courses (failed and made-up) shall be used in determining the total number of quality points for the course. This is to be applied beginning with the class entering in 1969-1970.

Plagiarism

Academic honesty is expected of all students. Plagiarism and cheating are not condoned and are subject to an academic penalty, which may be failure for the course in which the violation took place. A record of the violation is kept and repeated offenses may result in suspension or dismissal from the College.

Withdrawal from Courses

I. Upper Classmen

A. Full Semester Courses

If a student receives permission from the Dean of Undergraduate Studies to drop a course before the completion of the first four weeks, the instructor will be so advised and no grade of any kind will be submitted. After the first four weeks some form of grade is required for all students enrolled in a course. If a student, for some serious reason, desires to drop a course after this four week period, he must secure permission in writing (on three forms provided by the Office of the Registrar) from the Dean of Undergraduate Studies. Only if such a form is filed in the Registrar's Office and the second copy returned to the head of the department in which the student is majoring may the grade of WP or WF be recorded. In all other instances a grade of "E" shall be given.

B. Quarter Semester Courses

If a student receives permission from the Dean of Undergraduate Studies to drop a course before the completion of the second week, the instructor will be so advised and no grade of any kind will be submitted. After the second week, some form of grade is required for all students enrolled in a course. If a student, for some serious reason, desires to drop a course after this two week period, he must secure permission in writing (on three forms provided by the Office of the Registrar) from the Dean of Undergraduate Studies. Only if such a form is filed in the Registrar's Office and the second copy returned to the head of the department in which the student is majoring may the grade of WP or WF be recorded. In all other instances a grade of "E" shall be given.

II. Freshmen

Freshmen students are expected to carry a normal course load (15 semester

credit hours) in the major program of studies for which they have registered. Courses may be dropped only under very exceptional circumstances such as illness and then only upon written approval by the Dean of Undergraduate Studies.

Student Loads

A full-time student shall carry a class load of 12 to 18 semester hours, including evening courses as well as day courses. Students on probation are limited to a maximum of 15 semester hours.

Special Students

The term special student refers to students who have been given permission to take a part-time load (less than 12 semester hours).

Transfer of Credit After Admission

Approval for Bridgewater Summer Session and Bridgewater Continuing Studies courses, and any courses to be taken at another institution, must be obtained in advance from the appropriate department chairman and the Dean of Undergraduate Studies. Application forms are available in the Office of the Registrar. Applications for approval of a course from another institution should be accompanied by the appropriate catalogue from that institution. Transcripts for Summer Session courses or Continuing Studies courses must be submitted to the Registrar's Office within 6 weeks after completion of the course. This transfer of grades is not done automatically. It is the student's responsibility to have Continuing Studies grades sent to the Registrar's Office.

Warning, Probation, Dismissal

Warning notices are given at mid-semester to all freshmen and sophomore students who fail to maintain a "C" average in any course.

At the end of each semester, all students whose averages fall below the required minimum standard are subject to dismissal. Those students with a reasonable chance of raising their total average to the acceptable level within one semester may be placed on probation, on the recommendation of the Faculty Committee on Academic Standing and by approval of the Academic Dean.

Withdrawal from the College

Any student who must prematurely end his education should withdraw officially to insure honorable dismissal. Official withdrawal forms may be obtained from the Office of the Registrar and must be signed by the Academic Dean. Should the student leave the college without giving official notification, failing grades will be recorded for all courses.

Readmission

Students who withdraw from the College in good academic standing and wish to re-enter the College at some later date must apply through the Office of Admissions. Such students are generally approved for readmission provided their application is filed well in advance of the semester in which they choose to return, *not later than June 1 for first semester readmission and not later than December 1 for second semester readmission*. No priority will be given for residence hall assignments and such students will be placed on the waiting list for residency if such is requested.

Students who have been separated once from the College for academic reasons *may not take any courses in the College, either in the Day Session or in the Division of Continuing Studies (late afternoon-evening session) for at least one year, not including the summer session*. Such students may apply for readmission, through the Office of the Director of Admission after at least one full year of not taking courses at the College as previously indicated. A letter to the Director of Admissions must be written asking for consideration, *not later than June 1 for first semester readmission and not later than December 1 for second semester readmission*. An interview will then be arranged by the Director, and following this interview the applicant will be duly notified. Such students, if they are readmitted, will be placed on academic probation for one semester and must achieve and maintain a grade point average of at least 2.0 in order to continue. Failure to achieve this required probationary standard will necessitate academic dismissal. No priority will be given for residence hall assignments and such students will be placed on the waiting list for residency if such is requested.

It is recommended that readmission applicants give evidence of at least one year of academic work at some other institution of higher learning. Men who enter military service may apply for readmission when duly separated from the services.

All course work taken elsewhere will not necessarily be accepted as transfer credit.

Honors Program

The general aim of the Honors Program is to encourage students to do more intensive, independent, and creative work. More specifically, its aims are: to encourage superior and interested students to achieve their fullest intellectual potential through critical thinking, scholarship, and research; to help these students improve their skills in oral and written expression; to present an opportunity for frequent and close association of able students for intellectual exchange among themselves and with faculty members and other scholars; and to create an atmosphere which fosters intellectual, artistic, and academic achievement.

Dean's List

The Dean's List is published at the termination of each academic year to honor academic achievement. A 3.3 average is required.

Eight-Semester Time Limit as a Full-Time Student

Students are allowed a maximum of eight full semesters in order to complete degree requirements as a full-time student in the day session. For transfer students, of course, from those eight semesters there will be subtracted the number of semesters' work granted in transfer credit.

If a student does not complete work for his degree during eight full semesters, he will no longer be considered a full-time day session student and he will be expected to complete his work outside the Day Session Program, either in another institution or in our Continuing Studies Program, which operates in the summer and in the late afternoon and evening.

Standards for Representing the College

In order to represent the undergraduate College in intercollegiate competition, or as a member of the student government, all four of the following circumstances must be true about a student:

1. He must be in good academic standing.
2. He must be a full-time student, which is defined as carrying a *minimum* of 12 semester hours of credit.
3. He must not have completed his undergraduate degree requirements.
4. He must have completed not more than eight full semesters in the day session. Such eight full semesters in the case of a transfer student would include the number of semesters' work granted in transfer credit.

Graduation Honors

Academic excellence for the baccalaureate program is recognized by awarding degrees summa cum laude (cumulative average of 3.8), magna cum laude (3.6), and cum laude (3.3).

Graduation with Departmental Honors is recognized by inscribing on the diploma the phrase "With Honors in (the appropriate field)."

REGULATIONS CONCERNING STUDENT LIFE

A student is admitted to Bridgewater State College in the expectation that he will accept and abide by the high standards of conduct and scholarship established by the faculty, administration and student governing boards. The College reserves the right to require any student to withdraw who does not maintain acceptable academic standing. The College also reserves the right to dismiss with due process a student who does not meet the requirements of conduct and order, or whose behavior is inconsistent with the standards of the College.

Attendance Policy

Probationary students and first semester freshmen are allowed no unexcused absences. Other students are expected to use judgment and discretion in regard to class attendance.

Alcoholic Beverage Policies

Bridgewater State College abides by the laws of the Commonwealth in regard to the sale, consumption, transportation, and possession of alcoholic beverages on the campus. Additional information regarding specific policies may be found in the college handbook.

Dress Policy

Although there are no regulations as such concerning the dress of students at Bridgewater, students are expected to use good judgment in deciding what is appropriate for different activities. An attractive appearance with a neat and clean standard of dress is expected of all students at all times. Good sense should indicate where sports and work clothes should be worn and when more formal attire is appropriate.

In compliance with health and safety laws of the Commonwealth of Massachusetts it is required of all students to wear shoes in all campus buildings.

Drug Policies

The use or possession of illegal drugs on the campus is sufficient reason for expulsion from the College.

Housing

The College maintains no off-campus housing program. Students who do not live in their own family homes or in college residence halls must register their address with the Office of Student Personnel. All students under twenty-one must present a statement from their parents or guardian absolving the College from all responsibilities concerning this type of housing.

Students who are on a Waiting List for space in a College residence hall are not guaranteed living accommodations within any specified time.

Insurance

The College does not carry insurance which will compensate students or their families for losses suffered on campus because of fire, theft, water damage, etc.

It is advisable to check the extent of current home insurance or to seek coverage through a special policy.

Students interested in group Blue Cross-Blue Shield coverage should contact the Brockton Office of Blue Cross-Blue Shield. The college also offers health and accident insurance plans through the John C. Paige Insurance Co. of Boston. Application blanks for this type of insurance are available at the Registrar's Office at the opening of the college year.

Marriage Policy

Women students may continue to attend college classes and if they desire to do so, live in college residences after marriage. If a married student becomes pregnant, she should not register for the semester during which the last three months of the pregnancy occurs.

Traffic and Parking Regulations

Freshmen and Sophomore students living in Residence Halls are not allowed to have a motor vehicle on campus.

Appropriate parking areas on campus have been assigned to faculty, staff and students. During Fall Registration, decals and copies of Traffic Control Policies will be distributed designating these areas as well as explaining the traffic regulations set forth by the Traffic Control Committee.

A decal does not guarantee a parking space. Parking is on a "first come—first served" basis in an assigned area.

Disciplinary Suspension Procedures

The Deans of the College review all charges and pertinent information concerning the particular case. This information may be submitted by student officers or other members of the College community. Based on this data a recommendation for suspension is presented to the President of the College for his appropriate action or non-action. The President then reviews the case, forms an independent judgment on the basis of all the facts available and then makes his final decision.

Recommendations for suspension are usually made in cases of students already on a disciplinary probation status or after behavior which has seriously threatened the safety and security of other students. In all other cases of misconduct students are placed on disciplinary probation and their parents are notified. If the reasons for dismissal are not heinously offensive, students are permitted to voluntarily withdraw from the College.



OFFICERS OF ADMINISTRATION, 1971-1972

President Adrian Rondileau, Ph.D.

General Administration

*Dean of Administration and Director of the
Division of Continuing Studies*

Joseph Biggi Chiccarelli, M.A.

Assistant to the President

Henry Francis Werner, B.S.

Director of Admissions

Henry Joseph Fanning, Jr., Ed.D.

Assistant Director of Admissions

James Franklin Plotner, Jr., M.A.

*Director of the Program for the
Recruitment and Retention of
Special Students and Assistant
in Academic Administration*

Paul Laurence Gaines, M.Ed.

*Assistant to the Registrar and
Programming Officer*

Thomas Patrick Walsh, M.Ed.¹

*Associate Director of Continuing
Studies*

Robert Elwood Lemos, M.Ed.

*Assistant Director of Continuing
Studies*

John William Jones, M.Ed., M.S.

Financial Aid Officer

David Allen Morwick, M.Ed.

*Grant Coordinator and Veterans
Affairs Officer*

Edward George Elias, M.Ed.

Director of Information Services

Margaret MacIntosh Jewett

¹Replaced Ralph Norman Levesque on February 26, 1972.

Academic Administration

<i>Academic Dean</i>	Lee Francis Harrington, M.Ed. ²
<i>Dean of Undergraduate Studies and Director of the Hyannis Summer Session</i>	Vincent James DiNardo, Ed.D.
<i>Dean of the Graduate School</i>	Frank Joseph Hilmerty, Ph.D.
<i>Assistant to the Dean of the Graduate School</i>	Paul Francis Wright, M.A.
<i>Acting Director of the Division of Behavioral Sciences</i>	Morgan Cornelius Brown, Ph.D. ³
<i>Acting Director of the Division of Creative Arts</i>	Harold Guy Ridlon, Ph.D.
<i>Director of the Division of Humanities</i>	Milton Lorimer Boyle, Ph.D.
<i>Director of the Division of Natural Sciences and Mathematics</i>	Frank Joseph Hilmerty, Ph.D.
<i>Director of the Division of Professional Education</i>	Stanley Luther Clement, Ed.D.
<i>Director of Teacher Preparation and Placement</i>	Arthur Francis Baker, M.Ed.
<i>Principal of the Burnell School</i>	Doris Margaret Sprague, M.Ed.
<i>Director of the Division of Social Sciences</i>	Jordan Dominic Fiore, Ph.D.
<i>Ranking Librarian IV</i>	Owen Thomas P. McGowan, M.S. in L.S.
<i>Librarian IV</i>	Tom Watson
<i>Director of Media Services</i>	Henry Rosen, Ed.D.

²Became President of Massachusetts Maritime Academy on January 2, 1972.³Replaced Joseph Graessle Moore on February 7, 1972.

Student Services

<i>Dean of Students and Dean of Women</i>	Ellen Marie Shea, Ph.D.
<i>Assistant to the Dean of Women</i>	Martha Drinkwater Jones, M.Ed.
<i>Resident Counselor of Women</i>	Genevieve Mary Ash, M.A.
<i>Dean of Men</i>	David Paul Deep, M.Ed.
<i>Head of Male Residences</i>	Albert Joseph Petitpas, B.A.
<i>Clinical Psychologist</i>	James Trelear Lester, Ph.D.
<i>Director of Guidance</i>	Philip Ryan Dooley, M.Ed.
<i>Director of the Student Union</i>	Edward Joseph Meaney, M.S.
<i>Assistant Director of the Student Union</i>	Robert Stanley Sharples, M.Ed.

ADMINISTRATIVE OFFICES - 1971-72

PRESIDENT'S OFFICE

Head Administrative Assistant
Dorothy E. McGann
Helen D. Tripp
Carole A. Chighisola

ACADEMIC DEAN'S OFFICE

Olive R. Snarski

ADMISSIONS'S OFFICE

Elizabeth E. Varney
Georgette M. Carballo
Evelyn G. Williams

REGISTRAR'S OFFICE

Laurie L. Ahlborg
Gertrude R. Gailfoil
George A. Mussari

ACADEMIC DIVISION OFFICES

Joyce A. Chimbur
Lisa Cook
Irene Corsini
Rita L. Costa
Grace J. Demers
Irene G. Green
Thelma M. Haney

GRADUATE OFFICE

Eleanor L. Wyatt
Stella A. Wagner
Linda D. Stiles

CONTINUING STUDIES OFFICE

Dennis W. Bicknell
Marie B. Fleury
Mary Keif

LIBRARY

S. Mabell Bates
Barbara Britton
Nilda Darrigo
Rita Dziergowski
Marion Geppner
Margaret Gorman
Ronald Goudreau
Elsie Hill
Alan Howell
Joyce Leung
Shirley Libby
Patricia Manfredi
Joyce Marcus
Edward Morley
Katherine Schlitter
Robert Simmons
Elizabeth Souza
Emily Stone
Catherine Yellope
Adeline Ziino

BUSINESS OFFICE

Head Administrative Clerk
Geraldine A. Bunavicz
Catherine Bye
Dwight E. Cook
Mary Lou Dumoulin
Mary E. Hogan
Rita M. Klocker

STUDENT FINANCES

Senior Accountant
Leland R. Lemieux

Catherine Z. Condon
Ethel M. Denton
Robert M. Dunn
Jeannine M. Roy

STUDENT PERSONNEL OFFICE

Patrician A. Amaral
Ruth L. Parker

TEACHER PREPARATION AND PLACEMENT

Betty A. Miller
Barbara Murray

ELEMENTARY EDUCATION

Stephanie McCarty

BURNELL SCHOOL

Ruth L. Watson

HEALTH AND PHYSICAL EDUCATION

Angelina R. Jardullo
Chloe F. MacCormack

INSTRUCTIONAL MEDIA

Frances Cormier
Nanzetta S. Merriman

HEALTH SERVICES

College Physician
Leo Zalon, M.D.

Charge Nurse
Judith M. Deep, R.N.
Theresa Frazier, R.N.
Mary P. McCormack, R.N.
Annette L. MacDonald, R.N.

PAYROLL OFFICE

Chief Administrative Clerk
Doris I. Anderson

Theresa A. Cassulo
Lucy M. Cummings

SWITCHBOARD

Jacqueline M. Fernandes
Joan M. Perry

STUDENT UNION

Irene B. Fistori

RELATED COLLEGE SERVICES

*Institution Chief Power Plant
Engineer*
James M. Cummings, Jr.

*Superintendent of Buildings'
and Grounds*
Louis E. Perry

Senior Security Officer
Anthony Andre

FACULTY 1971-1972

ADRIAN RONDILEAU, A.B. (The City University of New York), M.A., Ph.D. (Columbia University), President.

MURRAY ABRAMSON, A.B. (Brooklyn College), M.A. (Syracuse University), M.A. (Columbia University), Ed.D. (Columbia University), Associate Professor of Mathematics and Chairman of the Department of Mathematics.

MARCI J. ANDERSON, B.A. (University of Rochester), M.A., Ph.D. (Brandeis University), Assistant Professor of English.

CHARLES FRANCIS ANGELL, B.A. (Colby College), M.A. (University of Massachusetts), Instructor of English.

BARBARA HOLT APSTEIN, A.B. (Cornell University), M.A. (Columbia University), Ph.D. (City University of New York), Assistant Professor of English.

ROBERT CHARLES ARRUDA, A.B. (Brown University), B.S. (Georgetown University), M.A.T. (Brown University), M.A. (Middlebury College), Associate Professor of Romance Languages and Chairman of the Department of Modern Foreign Languages.

GENEVIEVE MARY ASH, Adj. in Arts (Harvard University), M.A. (Suffolk University), Assistant Professor in Education.

ARTHUR FREDERIC BAKER, B.S. (Hyannis State Teachers College), M.Ed. (Bridgewater State College), Associate Professor of Education, and Director of the Division of Teacher Preparation and Placement.

ROBERT JACKSON BARNETT, A.B. (Juniata College), M.A. (Pennsylvania State University), Associate Professor of Speech and Theatre and Chairman of the Department of Speech and Theatre.

RALPH SAMUEL BATES, A.B., A.M. (University of Rochester), A.M., Ph.D. (Harvard University), Professor of History.

ROBERT JOSEPH BENT, B.S. (Boston College), Ed.M. (Boston State College), M.A. (San Diego State College), Associate Professor of Mathematics.

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BURNELL SCHOOL FACULTY

DORIS MARGARET SPRAGUE, B.S., M.Ed. (Bridgewater State College), Associate Professor of Education and Principal.

MARIAN CLAIRE DOYLE, B.S., M.S. (State University of New York, College at Potsdam), Assistant Professor of Education.

MARY CARROLL DOYLE, B.S., M.S. (Bridgewater State College), Assistant Professor of Education.

RUTH MARY GAMSON, B.S., M.Ed. (Bridgewater State College), Associate Professor of Education.

ELIZABETH MAYNARD HIGGINS, B.S. (Bridgewater State College), M.Ed. (Boston University), Instructor of Education.

MARGARET THERESE JOYCE, B.S., M.Ed. (Bridgewater State College), Assistant Professor of Education.

MARGARET M. MC GRATH, B.A., M.S. (Hunter College), Instructor of Education.

RICHARD MITCHELL MENICE, B.S. (Bridgewater State College), M.Ed. (Northeastern University), Assistant Professor of Education.

MARIAN' EMMA NELSON, B.S., M.Ed. (Bridgewater State College), Instructor of Education.

BETTY ANN NOYES, B.S., M.Ed. (Bridgewater State College), Instructor of Education.

BARBARA FREEMAN POE'SEPP, B.S., M.Ed. (Bridgewater State College), Assistant Professor of Education.

ELLEN BOLIN RUCKER, B.S. (Massachusetts State College at Hyannis), M.Ed. (Bridgewater State College), Instructor of Education.

MARJORIE MCMASTER TEITELBAUM, A.B. (Wellesley College), M.Ed. (Bridgewater State College), Instructor of Education.

EUGENIA B. WATSON, B.S. in Ed. (A & T College), M.Ed. (Bridgewater State College), Instructor of Education.

PRISCILLA LUCAS CHAPMAN, B.S. (Bridgewater State College), Laboratory Instructor of Education.

DIANNE VAN PUTTEN SMITH, B.S. (Bridgewater State College), Burnell School Librarian.

LABORATORY INSTRUCTORS

RICHARD CROCKER BENTON, B.A. (Bridgewater State College), Laboratory Instructor in Chemistry.

JAMES PATRICK HARRINGTON, A.B., M.S. (Bridgewater State College), Laboratory Instructor in Instructional Media.

NANCY W. HELLIER, B.A. (Boston University), Laboratory Instructor in Earth Sciences.

MARTHA F. MINSTER, B.A. (Bridgewater State College), Laboratory Instructor in Biology.

DOROTHY E. NICHOLS, B.A. (Bridgewater State College), Laboratory Instructor in Biology.

DAVID G. OWEN, B.A. (Bridgewater State College), Laboratory Instructor in Biology.

LINDA B. STAFFORD, B.S., M.Ed. (Bridgewater State College), Laboratory Instructor in Chemistry.

MARCI A. WEBB, B.A., M.Ed. (Bridgewater State College), Laboratory Instructor in Physics.

THE BOARD OF TRUSTEES

MASSACHUSETTS STATE COLLEGES

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DEGREE PROGRAMS

Bridgewater State College is authorized to grant the degrees of Bachelor of Arts and Bachelor of Science in Education. The Bachelor of Science in Education degree prepares students for teaching in the elementary schools, for teaching Health and Physical Education at all levels, and for teaching in the area of Special Education. The Bachelor of Arts degree allows the student to select from fourteen different areas of concentration, and provides preparation for secondary school teaching (if education is elected as a minor), graduate school, and fields of endeavor related to the major area of study. The areas of concentration are Anthropology, Biology, Chemistry, Chemistry-Geology, Earth Science, English, French, Geography, History, Mathematics, Physics, Psychology, Sociology, and Speech and Theatre.

Bachelor of Arts

GENERAL EDUCATION REQUIREMENTS

All students must take the following sequence of courses:

I.	Humanities	
A.	English Composition	6 crs.
B.	Literature	3 crs.
C.	Introduction to Philosophy	3 crs.
D.	Humanities Elective from Art or Music	3 crs.
E.	Humanities Elective from Art, Music, Literature, Speech and Theatre	3 crs.
F.	Total Humanities Requirements	18 crs.
II.	Foreign Language (One half or all of these credits can be waived by placement examination)	12 crs.
III.	Social Sciences	
A.	History	6 crs.
B.	Social Science Electives—Block 1 (select 2 courses) General Psychology, Introduction to Sociology, Anthropology, World Regional Geography I or II	6 crs.
C.	Social Science Electives—Block 2 (select 2 courses) Government, Political Science, American History, Economics	6 crs.
D.	Massachusetts and United States Constitution ¹	1 cr.
E.	Total Social Science Requirements	18-19 crs.

IV.	Mathematics and Natural Sciences	
A.	Laboratory Sciences (a one-year sequence) ²	6 crs.
B.	Mathematics	3 crs.
C.	Mathematics and/or Science Electives ³	6 crs.
D.	Total Mathematics and Natural Sciences Requirements	15 crs.
V.	Health and Physical Education	
A.	Activities—to be taken for 3 semesters	0 cr.
B.	Health—to be taken for 1 semester	2 crs.
C.	Total Health and Physical Education Requirements	2 crs.

MAJOR REQUIREMENTS

Each student must complete not less than 24 and not more than 36 credits in one of the major fields of concentration. The 24 and 36 credits reflect all courses taken in the major department, including those which are listed under the distribution of General Education Requirements. The student must select his major field by the end of the sophomore year.

MINOR FIELDS OF CONCENTRATION

Education Minor. Students may elect an education minor (see Department of Secondary Education under "Courses of Instruction") by taking a minimum of 18 credits in the sequence recommended by the Department of Education, six of which will be in student teaching.

Other Minors. In general, students may pursue a sequence of courses in cognate areas where such a sequence is possible. See "Courses of Instruction" for individual department programs.

LIBRARY INTRODUCTION

Freshmen are familiarized with the Library during one quarter of their first academic year. One period a week is devoted to developing basic library skills. Required of all freshmen; 1 one-hour period during one quarter; no credit.

¹Massachusetts state law requires all students to take a course in the federal and state constitutions. Students may fulfill this requirement by electing HI 221 (U.S. History to 1865). Those who do not elect HI 221 must take PO 273 (United States and Massachusetts Constitutions).

²BI 101 and 102, or CH 131 and 132, or ES 181 and 182, or ES 181 and 192, or PH 181 and 182, or CH 200 and PH 200.

³Biology, Chemistry, Earth Science, Physics.

Bachelor of Science in Education with a Major in Health and Physical Education**General Education Requirements—48 credits****Humanities and Creative Arts—18 credits**

EN 101	English Composition	3
EN 102	English Composition	3
	Literature	3
	Philosophy	3
ST 200	Oral Communication	3
	Elective—Art or Music	3

Social and Behavioral Sciences—18 credits

HI 221	U.S. History and Constitutions to 1865	3
PY 200	General Psychology	3
PY 224	Child Growth and Development or	3
PY 226	Adolescent Psychology	
	Electives—Anthropology, Economics, Geography, History, Political Science, Sociology	9

Natural Sciences and Mathematics—12 credits

MA 110	Elementary Statistics	3
BI 102	General Zoology	3
BI 385	Mammalian Physiology	3
	Electives—Biology, Chemistry, Earth Science, Mathematics, Physics	3

Professional courses and other requirements are outlined under Departments of Health and Physical Education.

Bachelor of Science in Elementary Education**General Education Requirements—65 credits****Humanities and Creative Arts—21 credits**

English: 9	EN 101 and 102 EN 211	6 <i>English Composition</i> 3 <i>World, English, or American Literature</i>
Speech & Theatre: 3	ST 200	3 <i>Oral Communication</i>
Art: 3	AR 110	3 <i>Introduction to Art</i>
Music: 3	MU 150	3 <i>Essentials of Music</i>
Philosophy: 3	PL 200, 210, 220, or PL 230	3 <i>General Philosophy</i>

Social Sciences and Behavioral Sciences—21 credits

History: 9	HI 111 and 112 HI 221	6 <i>Western Civilization</i> 3 <i>U.S. History to 1865</i>
Psychology: 6	PY 224	3 <i>Child Growth, Development</i>

Electives—6 credits from the following:

History: 3	HI 222	3 <i>U.S. History since 1865</i>
Sociology: 3	SO 202	3 <i>Introduction to Sociology</i>
Economics: 3	EC 400	3 <i>Economic Principles and Problems</i>
Anthropology: 3	AN 201	3 <i>General Anthropology</i>

Natural Science and Mathematics—21 credits

Mathematics: 6	MA 107 and 108	6 <i>College Mathematics for Elementary Majors I-II</i>
Biology: 6	BI 101 and 102	6 <i>Introduction to the Biological Sciences</i>
Chemistry: 3	CH 200	3 <i>Survey of Chemistry</i>
Physics: 3	PH 200	3 <i>Survey of Physics</i>
Earth Science: 3	ES 200	3 <i>Fundamentals of Geography</i>

Health & Physical Education—2 credits

HE 110	2 <i>Personal Health</i>
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Physical Education Activities—3 semesters without credit

Professional Education

Professional Education Courses are outlined under "Courses of Instruction," Department of Elementary Education.

Bachelor of Science in Special Education

I. Humanities and Creative Arts—24 credits

English: 9	EN 101 and 102 EN 211	6 <i>English Composition</i> 3 <i>World Literature</i> <i>English Literature</i> <i>American Literature</i>
Speech & Theatre: 3	ST 200	3 <i>Oral Communication</i>
Art: 6	AR 110 AR 374	3 <i>Introduction to Art</i> 3 <i>Art for Special Education</i>
Music: 3	MU 150	3 <i>Essentials of Music</i>
Philosophy: 3	PL 200, 210, 220, or 230	3 <i>General Philosophy</i>

II. Social Sciences and Behavioral Sciences—21 credits

History: 9	HI 111 and 112 HI 221	6 <i>History of Western Civilization</i> 3 <i>U.S. History to 1865</i>
Psychology: 9	PY 200 PY 224 PY 228	3 <i>General Psychology</i> 3 <i>Child Growth and Development</i> 3 <i>Psychology of Mental Retardation</i>
Sociology	SO 202	3 <i>Introduction to Sociology</i>

III. Natural Science and Mathematics—18 credits

Mathematics: 6	MA 107 and 108	6 <i>College Mathematics for Elementary Majors I-II</i>
Biology: 6	BI 101 and 102	6 <i>Introduction to the Biological Sciences</i>
Chemistry: 3	CH 200 or	3 <i>Survey of Chemistry</i>

Physics: 3	PH 200	3 <i>Survey of Physics</i>
Earth Science: 3	ES 200	3 <i>Fundamentals of Geography</i>

IV. Professional Education—11 credits

Health & Physical Education: 2	HE 110	2 <i>Personal Health</i>
Physical Education Activities: 0		0 <i>(for three semesters)</i>
Instructional Media: 3	IM 311	3 <i>Audio-Visual Methods and Materials</i>
Educational Foundations: 3	ED 480	3 <i>Philosophy of Education</i>
Educational Measurement: 3	ED 420	3 <i>Educational Measurement</i>

V. Special Education—27

Sophomore year	ED 410	3 <i>Introduction to Special Education</i>
	ED 411	3 <i>Methods and Materials in Special Education</i>
Junior Professional Semester	ED 336	3 <i>Teaching of Reading in Special Education</i>
	ED 425	3 <i>Educational Procedures in Special Education</i>
	ED 426	3 <i>Workshop in Special Education</i>
	ED 391	6 <i>Student Teaching in Special Education (Junior)</i>
Senior Professional Semester	ED 491	6 <i>Student Teaching in Special Education (Senior)</i>

VI. Electives—21 credits

Open Electives	12 <i>Electives</i>
Concentrations	9 <i>Concentrations</i>

TOTAL 122 CREDITS



DEPARTMENTAL COURSE OFFERINGS

The following section contains the courses offered by the Academic Departments of Bridgewater State College.

Course Numbering System

- 100—199 Introductory courses or courses normally taken in the freshman year
- 200—299 Courses normally taken in the sophomore year
- 300—399 Courses normally taken in the junior or senior years
- 400—499 Courses normally taken only by seniors

Usually courses offered in the fall semester are odd-numbered; those offered in the Spring semester are even numbered. Courses offered both semesters usually end in zero.

Prerequisites

Students should make certain that they have the necessary prerequisites for each course. Failure to do so may result in being inadequately prepared to take the course, and may result in the loss of any credit earned in the course. Prerequisites are given after the abbreviation Prq.

Unless specified otherwise, courses meet for three 50-minute periods or two 75-minute periods per week for one semester, and count for three credits. Departures from this rule, such as laboratory and studio periods and quarter courses, are indicated in the course descriptions.

When an instructors' name is specified, it indicates that he normally teaches the course. However, changes are sometimes necessary, and they will be specified in the class schedule issued at registration.

DEPARTMENT OF ANTHROPOLOGY

Professor George Horner, *Acting Chairman*

Assistant Professors: James Mueller, Reed Stewart, Abraham Thomas.

Instructor: Roberta Gianfortoni

Required for a Major in Anthropology: AN 201 and AN 205, plus six to eight other courses in Anthropology.

Required courses in other fields will be determined by the area of specialization in Anthropology. Students preparing for graduate work in Physical Anthropology will major in Biology and minor in Anthropology. Students preparing for graduate work in Archaeology may major in Geology and minor in Anthropology. Those preparing for graduate study in General Anthropology will have concentrations in Biology, Chemistry, Geology, or Physics.

Students preparing for graduate work in Cultural Anthropology will have concentrations in other Behavioral Sciences, or English, Geography, History, Language, Art, Music, or Speech. Students preparing for graduate study in Personality and Culture will have concentrations in Psychology and Zoology.

MA 110 is required of all majors. A minor in Anthropology requires AN 201 and AN 205 and 4 other courses in Anthropology, a total of 18 credits.

AN 201 General Anthropology 3 crs.

Origin of man. Physical evolution of man. Divisions of anthropology, cultural history, and development. Basic concepts and methods of analyzing cultures. *Professor Horner and Staff.*

AN 202 Cultural Anthropology 3 crs.

Science of human behavior in different cultural contexts. Man's biological and cultural variability; human societies of the present and recent past around the world; dynamics of cultural change. *Professor Horner and Staff.*

AN 205 Culture in Process 3 crs.

Prq.: AN 201 or AN 202.

Use of the inductive approach to examine the effect of culture on individuals and groups. Discussion and study of applied anthropological techniques used in planned programs to assist in adopting social change. *Professor Horner and Staff.*

AN 207 Primitive Religion 3 crs.

The origins and development of religion in society; myth, ritual, magic, and religious specialists. Australian, African, American Indian, Near Eastern folk religion, and folk religion of the Negro in the new world. *Professor Horner and Staff.*

AN 208 Religion in the Cultures of Asia 3 crs.

A survey of the beliefs and practices of Hinduism, Buddhism, and Islam, as related to their societal and cultural backgrounds. Attention will be given to aboriginal religions of the South Pacific and to the ancient religions of China and Japan, Taoism, Confucianism, and Shinto. The "great tradition" of philosophy will be compared to the "folk tradition" and actual practice of each religion in Asia today. *Assistant Professor Thomas.*

AN 210 Introduction to Folklore	3 crs.
The meaning and subdivisions of folklore: myth, folk tale, proverb, riddles. Analyses of story elements and major folklore areas. <i>Instructor to be announced.</i>	
AN 301 Introduction to Physical Anthropology	3 crs.
Prq.: AN 201 or 1 yr. or natural science. An introduction to the principles of Physical Anthropology as it relates to human evolution. Examinations of present evidence, in an attempt to discover the origin of man. Such aspects of progress in homeostasis, primate radiation, body structure and posture, feeding ecology and behavior, evolution of the head, and reproduction. <i>Instructor to be announced.</i>	
AN 302 Introduction to Archaeology	3 crs.
Prq.: AN 201 or 1 yr. of natural science. Examination of field methods, systems of data recording, analytical methods, and their conceptual basis. Abstract theory closely integrated with specific case material. Laboratory exercises in application of artifact analysis. <i>Assistant Professor Mueller.</i>	
AN 304 Personality and Culture	3 crs.
Prq: AN 201 or major in Behavioral Sciences. A study of the interrelationships between individual and society, focusing on 1) major theories about the formulation of personality by the surrounding structures, including Freudian theory and the Marxist concept of alienation; 2) a cross-cultural study of childhood; 3) adolescence in changing America; 4) several conceptions about the contemporary American Personality as compared with personality structures in traditional society. <i>Instructor to be announced.</i>	
AN 305 Peoples and Cultures in India	3 crs.
Prq.: AN 201 or ES 452. A survey of social structure in India, with emphasis on 1) the caste system; 2) the traditional Hindu and Islamic cultures; and 3) the effects of urbanization and modernization upon traditional structures. <i>Instructor to be announced.</i>	
AN 307 Seminar: Urban Cultural Dynamics	3 crs.
Prq.: AN 201, or ES 353, or SO 306. A study of poverty, urban renewal, and the experience of the ghetto, crime, family disintegration, problems of housing and transportation, and proposed solutions to the crisis of the inner city. Wherever possible emphasis will be upon Boston. <i>Staff.</i>	
AN 310 Peoples and Cultures of Africa South of the Sahara	3 crs.
Prq.: AN 201, ES 261, SO 202. A survey of present cultures of tropical and subtropical Africa, problems of colonialism, acculturation, new nationalism, and rapid social change. <i>Instructor to be announced.</i>	
AN 320 West Indian Negro Cultures in the Caribbean	3 crs.
Prq.: AN 201, or SO 203, or ES 261. Survey of the West Indian Negro cultures in the West Indies including social organization, religion, political development, and adjustment to modern conditions. <i>Instructor to be announced.</i>	
AN 322 Seminar: Afro-Asian Urban Cultures	3 crs.
Prq.: same as for AN 310. Description and analysis of urban cultures in Africa and Asia with special attention to problems of rapid social change, acculturation, political and economic developments. <i>Instructor to be announced.</i>	

AN 323 Theory of Culture	3 crs.
Prq.: AN 205.	
A survey of early schools of cultural theory including Adolf Bastian, Lewis Morgan, Edward B. Tylor, the British Diffusionists, the German Historical-Diffusionist School, French Sociology, Functionalism, including Franz Boas and Malinowski. Current functional evolutionary theory. <i>Professor Horner.</i>	
AN 324 Human Evolution and Variation	3 crs.
Prq.: AN 301.	
Application of the general evolutionary theory to man; primatology; human paleontology; race formation; cultural effects. For students with a concentration in Biology, or Physics, or Chemistry, or Earth Science. <i>Professor Horner and Staff.</i>	
AN 325 Survey of West African Cultures	3 crs.
Prq.: same as for AN 310.	
An introduction to contemporary diversity in relation to language grouping technologies, national problems, and opportunities. <i>Assistant Professor Stewart.</i>	
AN 326 Survey of East African Cultures	3 crs.
Prq.: same as for AN 310.	
An introduction to the cultural diversities in relation to language grouping, technologies, national problems, and opportunities with emphasis on the present. <i>Assistant Professor Stewart.</i>	
AN 327 Seminar: Urban Centers in East and West Africa	3 crs.
Prq.: same as for AN 310.	
Major African cities and the culture of their hinterland focusing on cities like Nairobi, Kampala, Kairo, Kumase, and Moarovia, and the role these cities play in shaping the lives of people in the surrounding territories. <i>Assistant Professor Stewart.</i>	
AN 328 Archeology of North America	3 crs.
Prq.: AN 201.	
A survey of some of the semi-historic and pre-historic Indian cultures in North America. <i>Assistant Professor Mueller.</i>	
AN 402 Seminar on Field Methods	3 crs.
Prq.: AN 201.	
Methods of field work for cultural anthropologists working in ongoing societies; design of field studies; techniques for collection and analysis of empirical data; experimental field projects. <i>Professor Horner and Staff.</i>	
AN 404 Seminar: Anthropology for Elementary Education	3 crs.
Prq.: AN 201.	
Theory and techniques of teaching Anthropology to elementary students: Grades 1 through 6. Special course material in physical and cultural anthropology and prehistory and archaeology. <i>Professor Horner and Staff.</i>	
AN 405 Directed Studies	3 crs.
Supervised individual project (reading, discussion, and report) for students who have completed the major portion of their degree requirements. Offered only to minors or majors in Anthropology. <i>Professor Horner and Staff.</i>	

AN 406 Archaeological Field Excavation, Survey and Research in Prehistoric Village Sites in New England*3 crs.*

Prq.: AN 302.

Intensive training in excavation techniques, recordation, analysis, and interpretation of archaeological materials. For students with a concentration in Earth Science. *Assistant Professor Mueller.***DEPARTMENT OF ART**Assistant Professor John Droege, *Chairman*

Associate Professor Doris Tebbets.

Assistant Professors: William Kendall, John Boyko.

Instructors: John Heller, Joan Hausrath.

Eighteen credits are required for an Art minor and fifteen credits for a concentration in Art; AR 110 and AR 280 may be included in either the minor or the concentration. A grade of C or above in AR 110 or AR 280 is required to continue in the Art minor program. Course sequences for a concentration or a minor in Art should be arranged with the department chairman.

AR 110 Introduction to Art*3 crs.*

Emphasis on painting, sculpture, and architecture; analysis of media, technical processes, and aesthetic principles; and discussion of style and its historical context. Assigned readings and museum visits. *Staff.*

AR 270 Basic Design*3 crs.*

Two and three dimensional surfaces and their structural possibilities. Elements of plastic expression related to increasingly complex concepts of space and form arrangement. Three two-hour periods weekly. *Assistant Professor Kendall.*

AR 272 Drawing I*3 crs.*

Basic concepts: perspective, modeling in light and dark, contour drawing. Exploration of various media: pencil, pen and ink, charcoal, ink wash, etc. Three two-hour periods weekly. *Assistant Professor Kendall.*

AR 273 Drawing II*3 crs.*

Prq.: AR 272 or consent of the instructor.

Advanced projects will be planned according to the individual's style development and media preference. Three two-hour periods weekly. *Assistant Professor Kendall.*

AR 280 Understanding Arts*3 crs.*

The development of a framework for visual understanding and enjoyment. Art is approached from both an analytical and a theoretical point of view. Attention is focused on the social, psychological and critical aspects of works of art. *Staff.*

AR 285 Textile Design I*3 crs.*

Design as related to weaving, knotting, and crewel work. Student may choose according to individual interest. Three two-hour periods weekly. *Associate Professor Tebbets.*

AR 286 Textile Design II 3 crs.

Prq.: AR 285 or consent of the instructor.

Advanced problems and techniques. Three two-hour periods weekly. *Associate Professor Tebbets.***AR 287 Painting I** 3 crs.Basic skills, picture organization, and oil painting techniques. Students will find individual solutions to assigned problems. Field trips to museums and galleries. Three two-hour periods weekly. *Assistant Professor Kendall.***AR 288 Painting II** 3 crs.

Prq.: AR 287 or consent of the instructor.

Advanced projects will be planned according to the individual's style of development. Three two-hour periods weekly. *Assistant Professor Kendall.***AR 291 History of Art I** 3 crs.

Prq.: AR 110, AR 280, or consent of the instructor.

Major developments in art from the prehistoric through the late Gothic. Style is examined in relation to the historical process. Assigned readings and museum work. *Instructor to be announced.***AR 292 History of Art II** 3 crs.

Prq.: AR 391, or consent of the instructor.

A continuation of AR 391 beginning with the Renaissance through the Modern era. The historical approach supplemented with analysis of stylistic problems. Assigned readings and museum work. *Instructor to be announced.***AR 374 Art for Special Education** 3 crs.Art education theory and direct experience with a variety of materials and processes adapted to the needs of special education. Three two-hour periods weekly. *Mr. Heller.***AR 375 Materials and Methods** 3 crs.Direct, creative experience with materials and processes related to the teaching of art in the public schools. Three two-hour periods weekly. *Mr. Heller and Staff.***AR 376 Wood Design** 3 crs.Wood as a material of creative expression; the use of both hand and power tools. Emphasis on the esthetic and utilitarian use of the materials. Three two-hour periods weekly. *Assistant Professor Boyko.***AR 377 Glassblowing I** 3 crs.

Prq.: Consent of the instructor.

Glass as a means of creative expression; the basic forming techniques and methods of design in glass. Three two-hour periods weekly. *Assistant Professor Boyko.***AR 378 Glassblowing II** 3 crs.

Prq.: Consent of the instructor.

Further exploration of glassblowing. Emphasis on studio equipment, design, and advanced techniques. Three two-hour periods weekly. *Assistant Professor Boyko.***AR 379 Sculpture** 3 crs.Design experimentation with traditional and new techniques. Media will include wood, metal, and resins. Three two-hour periods weekly. *Assistant Professor Boyko and Staff.*

AR 380 Ceramic Design**3 crs.**

Basic wheel forming and construction. Techniques in clay. Three two-hour periods weekly. *Mr. Heller.*

AR 381 Wheel Throwing**3 crs.**

Prq.: AR 380 or consent of the instructor.

Advanced problems and experience on the potter's wheel, and esthetics of ceramic design. Three two-hour periods weekly. *Mr. Heller.*

AR 382 Clay and Glazes**3 crs.**

Prq.: AR 380 or consent of the instructor.

Advanced work in the chemistry and compounding of clay and glaze materials. Three two-hour periods weekly. *Mr. Heller.*

AR 383 Metal Design I**3 crs.**

Basic design, construction, and forming techniques. Jewelry, constructed forms, sculpture. Three two-hour periods weekly. *Mr. Heller.*

AR 384 Metal Design II**3 crs.**

Prq.: AR 383 or consent of the instructor.

Advanced problems and techniques. Three two-hour periods weekly. *Mr. Heller.*

AR 385 Advanced Jewelry Design**3 crs.**

Prq.: AR 383 or consent of the instructor.

Specialized techniques for the design and creation of jewelry in precious metals, and experimental construction techniques with these metals. Three two-hour periods weekly. *Mr. Heller.*

AR 387 Introduction to Printmaking**3 crs.**

The basic methods, materials and processes used in printmaking. Three two-hour periods weekly. *Assistant Professor Droege and Staff.*

AR 389 Independent Study I**3 crs.**

SPecial problems in any studio art offered. Arrangements made by the department chairman. *Assistant Professor Droege and Staff.*

AR 390 Interior Design**3 crs.**

Traditional and contemporary styles in furniture and interior design studied in illustrated lectures and field trips. Problems in selection and arrangement of home furnishings. *Associate Professor Tebbets.*

AR 394 Renaissance Art and Architecture**3 crs.**

The development of the arts of architecture, painting, and sculpture in the Early and High Renaissance, with special emphasis on their interrelationships and their relation to the artistic theories and cultural ideals of the time. *Assistant Professor Droege and Staff.*

AR 395 Baroque Art**3 crs.**

Mannerist and Baroque styles of the sixteenth through eighteenth centuries will be studied, with emphasis on their origins in Italy and development through Western Europe. *Instructor to be announced.*

AR 396 Modern Art**3 crs.**

This course involves a study of painting, sculpture and architecture from Neo-Classicism to the present. Emphasis will be placed on major contemporary art movements. *Assistant Professor Droege and Staff.*

AR 398 Arts of the Far East 3 crs.

A selective review of major achievements in the arts of the Asiatic tradition, including those of India, Indonesia, China, Korea, and Japan. Comparison, when appropriate, with the arts of the West. *Instructor to be announced.*

AR 399 The Arts of the Americas 3 crs.

A survey of the arts of the early Americas, including the Inca, Toltec, Mayan, and Aztec cultures, with selected examples from the primitive Indian Arts of North America. *Instructor to be announced.*

AR 400 Primitive Art 3 crs.

Formal art properties and esthetic qualities of primitive art; the physical, psychological, and sociological backgrounds which brought this art into being. *Assistant Professor Droege.*

DEPARTMENT OF BIOLOGICAL SCIENCES

Professor Kenneth Howe, *Chairman*

Commonwealth Professor and Dean of the Graduate School Frank Hilmerty.

Professors: James Brennan, Elizabeth Cirino, Lawrence Mish, William Wall

Associate Professors: Walter Hewitson, Walter Morin

Assistant Professors: John Jahoda, Florian Muckenthaler, Harold Schaefer.

The Department offers a broad program for undergraduate majors leading to the degree of Bachelor of Arts in Biology and is designed to prepare students for teaching, research, graduate work, or a wide variety of applied fields. A minor program is provided for students with majors in fields related to biology, or for those interested in a better understanding of the life sciences. For those preparing for careers in medicine, dentistry, or oceanography, the Department participates in those Interdepartmental Programs (See catalog section: Interdepartmental Programs).

Students majoring in the biological sciences must satisfactorily complete the following courses: BI 101, 102, 281, 282, 283, 292, 381, 393, 395, 397, 401, 405, 411.

In addition to the General Education requirements, Biology majors must also satisfactorily complete the following courses: CH 131*, 132; MA 103*, 104; PH 181*, 182; ES 413; LG 101, 102, 291, 292**; or LF 101, 102, 181, 182; and PY 200. The courses CH 131, 132; MA 103, 104 should be taken in the freshman year.

*Students with appropriate backgrounds and the concurrence of their Departmental adviser may enroll in more advanced courses in Chemistry, Physics, and Mathematics than those cited above.

**Students considering subsequent graduate work are strongly advised to select German for the language requirement.

The Biology minor consists of an integrated series of courses appropriate to each student's concentration and arranged individually with a faculty adviser from the Department of Biological Sciences.

Entering students who have unusually broad backgrounds in Biology will usually be permitted to enroll in courses beyond the 100 series if they meet the departmental requirements for advanced placement. Persons who feel they may be eligible for advanced placement should consult with the Chairman of the Department.

BI 101 Introduction to the Biological Sciences I **3 crs.**

The botanical aspects of biology with emphasis on the structure and function of cells, tissues, organs, and the plant body, together with a general survey of the plant kingdom. Such topics as photosynthesis, water relations, respiration, growth, reproduction, heredity, disease, and evolution are included. BI 101, 102 are coordinated so that various concepts common to plants and animals are taught in one semester or the other and not duplicated. Students are expected to complete both courses. Two lectures and one two-hour laboratory period weekly. *Professor Howe and Staff.*

BI 102 Introduction to the Biological Sciences II **3 crs.**

The zoological aspects of biology with emphasis on such topics as: the nature of sciences and scientific thinking; the structure and physiology of cells, tissues, organs, and organ-systems; embryogeny; heredity; ecological and phylogenetic interrelationships; and a general survey of the animal kingdom. BI 101, 102 constitute a coordinated course in general biology, and students are expected to complete both courses. BI 102 may be taken before BI 101. Two lectures and one two-hour laboratory period weekly. *Professor Cirino and Staff.*

BI 212 The Biological Environment **3 crs.**

Emphasis is placed on current and future problems associated with man in his environment. The biological relationship between man and other living forms is discussed in terms of man's historical and present role in nature. Topics to be covered include: various aspects of pollution, population, and environmental disturbances. This course is not open to biology majors. Three lectures weekly. 3 semester hours credit. *Professor Cirino and Assistant Professor Jahoda.*

BI 281 Invertebrate Zoology **3 crs.**

Prq.: BI 101, 102 or consent of the instructor.

The biology of invertebrates from a phylogenetic standpoint with emphasis on taxonomy, morphology, histology, physiology, development, and natural history. Representatives of the principal classes of each phylum are studied. Two lectures and one two-hour laboratory period weekly. *Professor Wall.*

BI 282 Comparative Chordate Anatomy **3 crs.**

Prq.: BI 101, 102 or consent of the instructor.

An ontogenetic and phylogenetic survey is made of chordate gross anatomy, supplemented by laboratory dissections of representative species. Emphasis is placed on the changes in chordate structure and biology that comprise their evolution, and an interpretation made of the whole series of change in the light of our modern knowledge of how evolution is brought about. Two lectures and one two-hour laboratory period weekly. *Assistant Professor Jahoda.*

BI 283 Field Natural History**2 crs.**

Prq.: BI 101, BI 102 or consent of the instructor.

The identification of local plants and animals with emphasis on the natural history of common animals, dominant biotic communities of Southeastern Massachusetts, general morphology and taxonomy of organisms, and techniques of collecting and preserving. One one-hour lecture and one three-hour laboratory period weekly. *Professor Mish and Staff.*

BI 292 Plant Anatomy**3 crs.**

Prq.: BI 101, 102 or consent of the instructor.

A comparative study of the structural, functional, developmental and phylogenetic characteristics of cells, tissues, and organs in the vascular plants with emphasis on the angiosperms. Two lectures and one two-hour laboratory period weekly. *Assistant Professor Hewitson.*

BI 312 Heredity and Human Endeavor**3 crs.**

Prq.: BI 101, 102 or consent of the instructor.

The principles of genetics which are important to an understanding of the hereditary mechanism in man. Individual differences in relation to gene-environment interaction and the role of heredity in education, governance, and society. Primarily an elective for non-science majors. *Professor Brennan.*

BI 381 General and Comparative Physiology**3 crs.**

Prq.: BI 101, 102; CH 131, 132; PH 181, 182; or consent of the instructor.

Physiological principles concerned in irritability, contraction, circulation, gas exchange, excretion, and hormonal regulation. Two lectures and one two-hour laboratory period weekly. *Associate Professor Morin.*

BI 385 Mammalian Physiology**3 crs.**

Prq.: BI 101, 102 or consent of the instructor.

General physiological principles and their application to the human body. Two lectures and one two-hour laboratory period weekly. *Associate Professor Morin.*

BI 392 Problems in Biology**Credits arranged.**

Prq.: consent of the Departmental Chairman.

Individual instruction for advanced students usually involving original research in the biological sciences. Hours arranged. *Professor Howe and Staff.*

BI 393 Genetics**3 crs.**

Prq.: BI 101, 102; MA 103, 104; or consent of the instructor.

Analysis of the basic principles underlying heredity and the mechanisms involved in the replication, recombination, mutation, variation and expression of genetic material in representative plant, animal and microbial systems. Two lectures and one two-hour laboratory period weekly. *Professor Brennan.*

BI 395 Microbiology**3 crs.**

Prq.: BI 101, 102; CH 131, 132; or consent of the instructor.

An introduction to the structure, function, and ecology of microorganisms with emphasis on bacteria and viruses. Four lectures and two two-hour laboratory periods weekly for one quarter. *Dr. Schaefer.*

BI 397 Plant Physiology**3 crs.**

Prq.: BI 101, 102; CH 131, 132, or consent of the instructor.

The growth and function of plants including cellular physiology, water relations, metabolism, respiration, photosynthesis, nutrition, growth regulation, and the influence of environment. Two lectures and one two-hour laboratory period weekly. *Professor Howe.*

BI 401 Seminar in Biology

1 cr.

Prq.: consent of the instructor.

In-depth consideration of current problems and research in the biological sciences. One period weekly for the first, second and fourth quarters. *Professor Wall and Staff.*

BI 405 Systematics and Evolution

3 crs.

Prq.: BI 393 or consent of the instructor.

The theory of evolution and the operation of evolutionary forces as related to modern taxonomy, with emphasis on such topics as mutations, variation, hybridization, polyploidy, isolation, natural selection, population genetics, and the Zoological and Botanical Codes. Six periods weekly for one quarter. *Professor Wall and Assistant Professor Hewitson.*

BI 411 Ecology

3 crs.

Prq.: BI 281, 283, 292, 393, 397; MA 103, 104; PH 181, 182; or consent of the instructor.

The dynamics and evolution of populations, communities, and eco-systems. Students become acquainted with the communities of Southeastern Massachusetts through field studies. Two lectures and one two-hour laboratory period weekly for first and fourth quarters. *Professor Cirino.*

DEPARTMENT OF CHEMICAL SCIENCES

Professor Wilmon Chipman, *Chairman*

Professor Henry Daley, Jr.

Associate Professors: Vahe Marganian, Margaret Souza.

Assistant Professors: Joseph Pagano, Kenneth Sumner.

The Department of Chemical Sciences is on the list of approved schools of the American Chemical Society. It offers two majors in Chemistry and a Chemistry-Geology major, which is offered jointly with the Department of Earth Sciences. The Chemistry-Geology major is listed in the catalog as an Interdepartmental Program in Natural Sciences. Students interested in medicine or dentistry should consult the section of the catalog describing the pre-medical and pre-dental programs. Attention is called to the Interdepartmental Programs in Oceanography. A major in chemistry is excellent preparation for further work in this area.

The Department of Chemical Sciences offers two programs leading to the Bachelor of Arts Degree in Chemistry. The first of these, the major in Professional Chemistry, is designed for students who plan to go on to graduate work in chemistry or to do research in the chemical industry. The courses offered in this program meet the requirements of the American Chemical Society for an approved major. Satisfactory performance in this program (B average) will give the student the professional preparation required for an assistantship or fellowship in graduate school.

The second major in Chemistry is designed for students who wish to prepare for secondary school teaching, chemical sales work, medicine, dentistry, pharmacy, oceanography, environmental science, or veterinary science. This program is designed to allow a maximum amount of flexibility in that only a minimum number of chemistry courses are included. The student enrolled in this program may elect more chemistry courses if he

desires, or he may elect courses in other sciences or in the Humanities, Social Sciences, or Education. The student need not decide between the programs until the second semester of his sophomore year. Both curricula are structured so that the student achieves a well-balanced liberal education and professional training in his major field.

The major in Professional Chemistry is required to take the following courses: CH 100, 141, 142, (or CH 131, 132), 241, 242, 343, 344, 381, 382, 441, 442, 444, 450; and MA 101, 102, 201, 316; PH 243, 244, 387; LG 101, 102, 191, 192 or LR 101, 102, 151, 152. (German or Russian may be replaced with French with the written permission of the Department.) Graduates of this program will meet the requirements for certification of the American Chemical Society.

The major in Chemistry is required to take the following courses: CH 100, 141, 142, (or CH 131, 132), 242, 343, 344, 381, 382; and MA 101, 102, (or MA 103, 104 with the consent of the department); PH 243, 244. The normal freshman program for a student interested in majoring in Chemistry consists of CH 100, CH 141-142, MA 101-102, EN 101-102, and HI 111-112.

A minor in Chemistry consists of eighteen credits in Chemistry, exclusive of CH 200. A minor in physical science may be arranged by consultation with the Department of Chemical Sciences and the Department of Physics.

The Department of Chemical Sciences has recently acquired the following equipment: a Varian T-60 Nuclear Magnetic Resonance Spectrophotometer, with time-averaging device (C-1024); a Perkin-Elmer Model 257 Infrared Spectrophotometer; a Perkin-Elmer Model 202 Ultraviolet Spectrophotometer; Perkin-Elmer Model 154D and Varian Airograph 1720-1 Gas Chromatographs; a Perkin-Elmer Model 303 Atomic Absorption Spectrophotometer; and a Perkin-Elmer Model 700 Infrared Spectrophotometer. An X-ray Diffraction apparatus is shared with the Department of Earth Sciences. The Department of Chemical Sciences has also acquired such necessary equipment as recorders, Malmstadt-Enke instrumentation Laboratories, pH meters, Spectronic 20's, and standard-taper glassware kits.

CH 100 Computer Science in Chemistry *1 cr.*

Introduction to computer programming as used in Chemistry. Particular emphasis will be on applications of Fortran for statistical studies in the Chemistry laboratory. *Professor Daley.*

CH 131, 132 General Chemistry with Qualitative Analysis I-II

3 crs. for each semester.

The elements and their compounds, with emphasis on structure and its relation to properties. CH 131 is prerequisite to CH 132. Two lecture periods and one two-hour laboratory period weekly. *Staff.*

CH 141, 142 Inorganic Chemistry with Qualitative Analysis I-II

4 crs. for each semester.

Theoretical inorganic chemistry with emphasis on mass-energy relationships in terms of structure and physical laws. Laboratory work emphasizes quantitative techniques. CH 141 is prerequisite to CH 142. Three lecture periods and one four-hour laboratory period weekly. *Staff.*

CH 200 Survey of Chemistry	3 crs.
The fundamental laws of chemistry are studied together with their application to elements and compounds, reactions and properties. Two lecture periods and one two-hour laboratory period weekly. <i>Staff.</i>	
CH 202 Chemistry In Everyday Life	3 crs.
A lecture demonstration course on the application of chemistry to selected topics that an individual encounters in his daily life. Sample topics are: a) colloids and their relationship to foods and air pollution; b) acids, bases and pH; the effects of fertilizers; c) drugs; the nature of various chemical classes and their chemical effects on the human body. 3 hours lecture. (Because of the demonstrations class enrollment must be limited to 40 students). <i>Associate Professor Souza or Professor Daley.</i>	
CH 241 Inorganic Quantitative Analysis	4 crs.
Prq.: CH 132 or CH 142. The classical and modern methods for the volumetric and gravimetric determination of elements and groups. Three lecture periods and one four-hour laboratory period weekly. <i>Staff.</i>	
CH 242 Intermediate Inorganic Chemistry	3 crs.
Prq.: CH 132 or CH 142. The descriptive chemistry, as well as synthesis and reactions, of nontransitional elements and their compounds are studied systematically. Correlations of structure and properties are explained on the basis of modern theories. <i>Associate Professor Marganian.</i>	
CH 343, 344 Organic Chemistry I-II	4 crs. for each semester.
Prq.: CH 132 or CH 142 and consent of the instructor. A survey of the chemistry of organic compounds organized in terms of structure, mechanism of organic reactions, and synthesis. CH 343 is prerequisite to CH 344. Three lecture periods and one four-hour laboratory period weekly. <i>Professor Chipman and Associate Professor Souza.</i>	
CH 381, 382 Physical Chemistry I-II	4 crs. for each semester.
Prq.: CH 132 or CH 142; MA 201. The laws governing the physical and chemical behavior of compounds. CH 381 is prerequisite to CH 382. Three lecture periods and one four-hour laboratory period weekly. <i>Professor Daley.</i>	
CH 384 Physical Chemistry II	2 crs.
Prq.: CH 381. The alternative to CH 382 for students who elect to student teach during the second semester. Differs from CH 382 by the omission of all material on quantum chemistry. Three lecture periods and one four-hour laboratory period weekly for one quarter. <i>Professor Daley.</i>	
CH 390 Research Problems in Chemistry	Credits arranged.
Prq.: consent of the Department. Special projects for advanced students desiring individual instruction in the methods of chemical research. Hours arranged.	
CH 392 Laboratory Techniques	3 crs.
Special techniques used in the research laboratory, such as glass-blowing, vacuum line technique, vacuum distillation, dry-box operations and advanced synthetic techniques. Hours arranged. <i>Instructor to be announced.</i>	

CH 440 Advanced Organic Chemistry 3 crs.

Prq.: CH 344, and consent of the instructor.

Selected topics in advanced organic chemistry, such as physical organic chemistry, alicyclic and heterocyclic chemistry, natural products, and advanced synthetic methods. Hours arranged. *Professor Chipman and Associate Professor Souza.*

CH 441, 442 Qualitative Organic Analysis I-II 3 crs. for each semester.

Prq.: CH 344.

The reactions of organic compounds with emphasis on those of importance for classification and identification. Laboratory work involves the identification of both simple compounds and mixtures. One lecture period and one six-hour laboratory period weekly. *Professor Chipman and Associate Professor Souza.*

CH 444 Advanced Inorganic Chemistry 3 crs.

Prq.: CH 382.

The topics of group theory, stereochemistry, ligand field theory, molecular orbital theory, synthesis and kinetics of reactions as applied to transition metal elements will be treated in detail. CH 382 may be taken concurrently. Hours arranged. *Associate Professor Marganian.*

CH 450 Instrumental Analysis 3 crs.

Prq.: CH 382.

Theory and practical application of instrumental methods are applied to chemical analysis; including pH measurements, electro-deposition, potentiometry, and spectroscopy. CH 382 may be taken concurrently. Two lecture periods and one four-hour laboratory period weekly. *Associate Professor Marganian.*

CH 461, 462 General Biochemistry I-II 4 crs. for each semester.

Prq.: CH 344 and consent of the instructor.

A survey of the chemical components of living matter and the major processes of cellular metabolism. Three lecture periods and one four-hour laboratory period weekly. *Assistant Professor Sumner.*

CH 480 Special Topics in Physical Chemistry 3 crs.

Prq.: CH 382 and consent of the instructor.

Topics of an advanced nature in physical chemistry will be selected with an emphasis on recent developments in the field. Possible topics: N.M.R., E.S.R., elementary quantum mechanics, statistical thermodynamics. *Professor Daley.*

DEPARTMENT OF EARTH SCIENCES AND GEOGRAPHYProfessor Emanuel Maier, *Chairman*

Professors: Agrippina Macewicz, Ira Furlong.

Associate Professors: Robert Boutilier.

Assistant Professors: Paul Blackford, Richard Enright, Marilyn Furlong,

Reed Stewart.

Instructor: Robert Dillman.

The Department of Earth Sciences and Geography offers two separate fields of concentration: Geography and Earth Sciences. The program of study for Geography majors is designed to give a student knowledge and appreciation of the physical and cultural attributes of the world in which he lives. The concentration in Earth Sciences aims to

introduce students to the various sciences that relate to the physical aspects of the earth and the universe.

Students majoring in geography are required to take the following courses: ES 181, 182, 304, 315, 362, 471; elect two from the following groups: ES 192, 194, 301, 303, 306, 484; and elect four more approved geography courses. A total of 35-36 credits are required. Not more than one D for a semester course shall be accepted for fulfillment of the requirements for the major.

Students majoring in the earth sciences are required to take the following courses: ES 181, 192, 301, 303, 306, 372, 463, 484; and elect three more approved earth science courses. A total of 34 credits are required in the major. Not more than one D for a semester course shall be accepted to fulfill the requirements for the major.

An additional requirement for geography is one course in elementary statistics (MA 110 or equivalent). Additional requirements for earth sciences are: one year of mathematics, one year of chemistry, and one year of either physics or biology.

Attention is called to Interdepartmental Programs in Chemistry-Geology, Oceanography and Urban Affairs.

Acquisition of modern laboratory equipment has enabled the Department to offer investigation-oriented laboratory periods. This equipment includes: a Norelco X-ray diffractometer with Laue and Debye-Scherrer cameras; rock saw and thin section equipment; polarizing and stereoscopic microscopes; a Perkin-Elmer Model 303 Atomic Absorption Spectrophotometer; Soiltest Seismic Refraction Unit; a complete weather station; two telescopes; a theodolite, surveying equipment; and a modern cartographic laboratory.

*Asterisk indicates courses not giving physical science credit.

ES 181 Physical Geology **3 crs.**

The constitution of the earth and the processes acting on and within it. Field trips. May be followed by either ES 182 or ES 192. Two lecture periods and one two-hour laboratory period weekly. *Professor I. Furlong and Staff.*

ES 182 Physical Geography **3 crs.**

Selected elements of man's environment such as the atmosphere, climate, soils, and vegetation. Man's role in altering these elements. Field trips. Two lecture periods and one two-hour laboratory period weekly. *Professor Macewicz and Staff.*

ES 192 Historical Geology **3 crs.**

Prq.: ES 181.

The origin and evolution of the earth and the life upon it. Two lecture periods and one two-hour laboratory period weekly. *Staff.*

ES 194 Environmental Geology **3 crs.**

Waste disposal, slope stability, shoreline and hydrologic problems, seismic and permafrost conditions and other topics as they pertain to the geologic environment in selected physiographic provinces of North America will be studied. *Professor I. Furlong.*

ES 200 Fundamentals of Geography 3 crs.

Man-land relationships and the interaction of man with his total environment, including its landforms, atmosphere, climate, vegetation, and soils. Designed especially for students working for a B.S. degree in Elementary Education. Two lecture periods and one two-hour laboratory period weekly. *Assistant Professor M. Furlong and Staff.*

ES 252 Geography of Anglo-America* 3 crs.

Prq.: ES 182 or ES 200, or consent of the instructor.

A description and analysis of the relationships between relevant physical and cultural features of regions in the United States and Canada. *Assistant Professor M. Furlong.*

ES 261, 262 World Regional Geography* 3 crs. for each semester

Geographical context of current social, economic and political problems in Europe, the U.S.S.R., the Orient, the Middle East, the Pacific World, Africa, Latin America, and Anglo- America. Geographical features characteristic of each country and their relationship to a functioning political and economic unit. Either semester may be taken independently. *Assistant Professor Stewart.*

ES 301 Astronomy I 3 crs.

Prq.: MA 103-104 or consent of instructor.

A study of the earth, moon, planets, sun, and other stars and galaxies. New finding of radio astronomy and the uses of earth satellites. Day and evening observations. *Staff.*

ES 302 Astronomy II 3 crs.

Prq.: MA 103-104 or consent of instructor.

Stars, galaxies, stellar evolution, instrumentation, and cosmology. Day and evening observation. *Staff.*

ES 303 Meteorology 3 crs.

Prq.: ES 200 or ES 182 or consent of instructor.

An analysis of weather elements, atmospheric circulation, fronts, and the instruments that measure and record these phenomena. Two lecture periods and one two-hour laboratory period weekly. *Assistant Professor Blackford.*

ES 304 Climatology 3 crs.

Prq.: ES 303 or consent of the instructor.

Climatic elements and climatic controls, their areal distribution and effect on man. *Assistant Professor Blackford.*

ES 305 Introduction to Oceanography I 3 crs.

Prq.: BI 101, BI 102, or consent of the instructor.

Survey of marine life forms and of the chemistry of seawater. *Staff.*

ES 306 Introduction to Oceanography II 3 crs.

Prq.: MA 101, 102, or 103 and MA 104 or consent of the instructor.

Ocean water temperature, circulation, shore lines, ocean basins, and mineral resources. *Staff.*

ES 315 Cartography* 3 crs.

Graphic presentation of geographic data and the latest techniques of map construction. One lecture period and four laboratory periods weekly. *Assistant Professor Blackford.*

ES 353 Urban Geography* 3 crs.

Prq.: consent of the instructor.

Geographic aspects of the city including location, function, land use patterns, and tributary areas.
Professor Macewicz.

ES 354 Field Methods in Urban Geography* 2 crs.

Prq.: ES 353.

A geographic analysis of local urban area and their problems, and the application of concepts learned in ES 353. Hours arranged. *Instructor to be announced.*

ES 358 Geography of Latin America* 3 crs.

Physical and cultural patterns of selected countries of South America. Emphasis on current economic and political problems. *Instructor to be announced.*

ES 361 Geography of Environmental Problems 3 crs.

Environmental Problems are considered in this course from the geographer's point of view, problems such as population densities and distribution, balanced land use and its philosophic, esthetic, and scientific basis, the circulation of goods and people, and a comparison of levels of development. *Instructor to be announced.*

ES 362 Economic Geography* 3 crs.

Prq.: consent of instructor.

Simple models and frameworks of the various ways in which man organizes his economic activity. Problems of spatial structure, arrangements and patterns of economic activity. *Professor Maier.*

ES 363 Field Methods in Economic Geography* 2 crs.

Prq.: ES 362.

The testing of theories and concepts of economic location in the local area. *Instructor to be announced.*

ES 372 Mineralogy 4 crs.

Prq.: ES 181 and CH 132.

Geometrical and X-ray crystallography followed by the determinative mineralogy of ore and rock-forming minerals. Two lecture periods and two two-hour laboratory periods weekly. *Associate Professor Boutilier.*

ES 405 Synoptic Meteorology 3 crs.

Prq.: ES 303.

Investigation of world and local air systems, air masses, and fronts. Weather maps, upper air charts, and basic forecasting techniques. Two lecture periods and one two-hour laboratory period weekly. Not offered in 1972-1973.

ES 407 Air-Photo Interpretation 3 crs.

Physical and cultural patterns on the earth's surface and their recognition on air photographs. One lecture period and two two-hour laboratory periods weekly. Not offered in 1972-1973.

ES 413 Survey of Physical and Historical Geology 3 crs.

The structure and history of the earth as deduced from the study of life forms and their physical environment. Two lecture periods and one two-hour laboratory period weekly. For Biology majors only. *Assistant Professor Enright.*

ES 451 Geography of Europe* 3 crs.

Prq.: ES 182 or ES 200, or consent of the instructor.

The character of the natural and cultural environments of the geographic regions of Europe. *Professor Maier.***ES 452 Geography of Asia*** 3 crs.The physical and cultural patterns of selected countries of Asia. *Instructor to be announced.***ES 461 Geography of Africa*** 3 crs.The physical and cultural features of the African continent with special reference to the emerged political and regional patterns. *Assistant Professor Stewart.***ES 462 Geology of North America** 3 crs.

Prq.: ES 181.

Physiographic provinces of North America in terms of geomorphology and structural relationships. Not offered in 1972-1973.

ES 463 Petrology 3 crs.

Prq.: ES 372.

Megascopic and microscopic classification of rocks and an introduction to petrogenesis. One lecture period and two two-hour laboratory periods weekly. *Associate Professor Boutilier.***ES 464 Economic Geology** 3 crs.

Prq.: ES 181.

Geochemical and physical processes that produce economic mineral deposits. Not offered in 1972-1973.

ES 466 Glacial Geology 3 crs.

Prq.: ES 181.

The mechanics of glacial origin and movement, and the erosive and depositional features produced. Emphasis on the Pleistocene of North America. Two lecture periods and one two-hour laboratory period weekly. Not offered in 1972-1973.

ES 471 Seminar in Geography* 3 crs.The historical development of methods, tools, and techniques used in geographic research. Preparation of a research paper on a problem selected from one of the subdivisions of geography. For senior Geography majors. Two periods weekly for three quarters. *Professor Macewicz.***ES 472 Research in Earth Sciences** 3 crs.Preparation of a research paper in the Earth Sciences. *Staff.***ES 473 Political Geography*** 3 crs.Variations of politically organized areas and their relationship to each other. Political behavior from the viewpoint of ethology, i.e., territoriality and aggression. *Professor Maier.***ES 474 Quantitative Geography*** 2 crs.

Prq.: consent of the instructor.

The use of statistical techniques, and computer and model building methodology to analyze various spatial phenomena.

ES 475 Paleontology 3 crs.

Prq.: ES 181, 192 or consent of the instructor.

A survey of the fossil record stressing the most important invertebrate and vertebrate phyla and their environmental relationships. Two lecture periods and one two-hour laboratory period weekly. *Assistant Professor Enright.*

ES 483 Structural Geology 3 crs.

Prq.: ES 181.

Analysis and origin of rock structures. Two lecture periods and one two-hour laboratory period weekly. *Assistant Professor Enright.*

ES 484 Geomorphology 3 crs.

Prq.: ES 181 or consent of the instructor.

Relationships between gradational and tectonic forces and the resulting surface configuration of the earth. *Professor I. Furlong.*

DEPARTMENT OF ECONOMICS

Professor Jordan Fiore, *Acting Chairman*

Instructor Richard Freeman.

EC 320 Comparative Economic Systems 3 crs.

Analysis of central economic problems faced by nations in organizing economic activity; comparison of theories and institutions of capitalism and liberal socialism.

EC 400 Economic Principles and Problems 3 crs.

Significant economic concepts, institutions, and problems of a free enterprise system.

EC 420 Principles of Investments 3 crs.

Introduction to mechanics of stock market and analysis of various investment media for individual investment portfolios.

DEPARTMENT OF EDUCATIONAL SERVICES

Professor Stanley Clement, *Chairman*

Professors: Robert Daniel, John Deasy, James DiNardo.

Associate Professors: Arthur Baker, Anthony DeLeo, Philip Dooley, David Englund.

Assistant Professors: Genevieve Ash, Peter Bizinkauskas, Henry Fanning,

Robert Fitzgibbons, John Jones, Leo McGuirk, Paul Prescott, Vincent Worden,
Raymond ZuWallack.

Instructor Martha Jones.

The Department of Educational Services provides a program for Special Education majors in which stress is placed on professional competencies necessary to become an effective teacher in this field. Emphasis is placed on the use of appropriate teaching procedures, materials, and evaluation techniques. Practical experience in actual school situations is considered most important. This includes formal student teaching, and other required and voluntary experiences..

Special department requirements for Special Education majors include: ED 336, 391, 410, 411, 420, 425, 426, 480, and 491. In addition to General Education requirements courses required in other departments include: PY 228, AV 311, AR 374.

Special Education majors must have a concentration in one of the following fields: Emotionally Disturbed, Speech Therapy, Reading, Psychology, Sociology, Urban Education, or Kindergarten-Primary. Concentrations in other academic fields may be selected with approval of the department advisor. This concentration will consist of nine semester hours credit beyond General Education or department requirements.

The department sponsors an undergraduate concentration for Elementary majors in Reading and in Special Education.

The Department also provides the service courses in Educational Measurement and Philosophy of Education that are required in all Teacher Preparation programs and provides elective courses in Special Education, Philosophy of Education, Reading and Guidance.

ED 336 Teaching Reading in Special Education **3 crs.**

Basic reading principles and skills; appropriate correctional and remedial techniques and materials for the child with limited ability. Audiovisual materials, phonics, and the clinical approach to teaching will be stressed. *Associate Professor DeLeo*.

ED 372 Success in Beginning Reading **3 crs.**

A thorough examination of the language and perceptual backgrounds that children bring to the learning tasks of kindergarten and grade one; the initial steps in developing reading and writing skills; and the possibilities for the creative uses of these skills in the primary grades. Consideration will be given to the implications of the factors underlying such labels as "slow-learning," "disadvantaged," "dyslexic," and "language-handicapped" children. Required of all Elementary majors with Kindergarten-Primary Concentration. *Professor Deasy*.

ED 380 Contemporary Issues in Education **3 crs.**

The identification and analysis of fundamental issues currently facing the American educator. The goal is to understand the source of the problems and to evaluate suggested solutions. *Assistant Professor Fitzgibbons*.

ED 382 Comparative Education **3 crs.**

Representative educational patterns from Asia, Africa, Europe, North and South America and their relationship to social institutions and problems. *Associate Professor Englund*.

ED 391 Supervised Student Teaching in Special Education **6 crs.**

The Paul A. Dever State School and the Wrentham State School residential schools for the mentally retarded, will serve as the laboratory in which students engage in the directed study of children in learning situations as they are encountered in special education classes. Students participate increasingly in the activities to the extent to which they can undertake the duties of the special class teacher. Frequent conferences with supervisors and specialists. The understanding of anecdotal records, case summaries, and behavior will be part of this program. Course work will be given concurrently. *Associate Professor DeLeo and Assistant Professor Prescott*.

ED 410 Introduction to Special Education**3 crs.**

A survey of all phases of special education emphasizing the program for mentally and physically handicapped children, for emotionally disturbed children, and for the academically talented. The slow learner and the perceptually handicapped will receive consideration. *Associate Professor DeLeo.*

ED 411 Methods and Materials in Special Education**3 crs.**

Special emphasis will be placed on philosophy, general and specific aims, identification and classification, curriculum development, and the planning, developing, and guiding of pupil experiences in the educational program for retarded children. *Assistant Professor Prescott.*

ED 420 Educational Measurement**3 crs.**

Procedures for developing and evaluating classroom teacher-made tests and a survey of standardized testing practices used in the K-12 program. Emphasis will be placed on the student's intended area of, and/or level of concentration. *Assistant Professor McGuirk and Associate Professor Worden.*

ED 425 Educational Procedures in Special Education**3 crs.**

A review of the educational procedures and curricula in all areas of exceptionality. Increased emphasis will be placed on identification, classification, placement, and the appropriate teaching procedures for each type. *Associate Professor DeLeo and Assistant Professor Prescott.*

ED 426 Workshop in Special Education**3 crs.**

The practical aspects of special education techniques will be brought into focus through the use of off-campus facilities. In cooperation with area communities, research will be carried out to find methods and techniques for improving the effectiveness of special education programs. *Associate Professor DeLeo and Assistant Professor Prescott.*

ED 430 Principles and Practices in Guidance**3 crs.**

The philosophy and historical development of the guidance movement; the need for guidance; the nature of guidance services in the schools of today; the personnel, facilities, and procedures involved; and the role of the classroom teacher in guidance. Open to all seniors. *Professor Dooley.*

ED 435 Teaching Study Skills and the Uses of Reading**3 crs.**

(Formerly ED 333)

Opportunities open to classroom teachers for promoting voluntary reading through individualized reading, classroom specialties and curricular-related research projects. Consideration of the ways in which teachers can guide pupils to apply their basic reading skills as they study content subjects: locating, selecting, organizing information, preparing reports, setting their own purposes for reading. *Assistant Professor Bizinkauskas.*

ED 436 Remedial Reading Techniques for Classroom Teachers**3 crs.**

(Formerly ED 334)

Experience in analyzing learning needs, preparing remedial plans, and providing highly motivated, intensive instruction to overcome specific weaknesses. Testing and tutoring experiences with elementary children. Two lecture and two laboratory periods weekly. *Professor Deasy.*

ED 480 Philosophy of Education**3 crs.**

An introduction to thinking critically and imaginatively about education from the viewpoint of philosophy. Emphasis is placed on understanding the philosophical presuppositions which underlie educational practices and policies. *Associate Professor Englund, Assistant Professor Fitzgibbons.*

ED 485 History of Educational Thought 3 crs.

Research and evaluation of the theories of education from which present educational practices, policies, and theories have developed. *Not offered in 1972-1973.*

ED 487 History of American Education 3 crs.

An examination of the development of education in America from colonial times up to the present with a consideration of probable future directions. *Not offered i.: 1972-1973.*

ED 491 Supervised Teaching in Public Schools—Special Education 6 crs.

Continuous supervised experiences under regular special class conditions will be provided. Experience will be gained in different teaching techniques, individual differences, and classroom management. Supervision by the cooperating teacher and the college supervisor should culminate in the assumption of at least one week of full time responsibility. Required of all Special Education majors. *Associate Professor DeLeo and Staff.*

DEPARTMENT OF ELEMENTARY EDUCATION

Associate Professor Wayne F. Dickinson, *Chairman*

Professor Robert MacCurdy.

Associate Professors: Rita Nadal, Dorothy Wood.

Assistant Professors: John Kent, Isabelle King, Wayne Phillips, Gerald Thornell.

Instructor Thomas Wolpert.

The Department of Elementary Education strives to provide the student with the professional competencies necessary to become an effective elementary teacher, including an understanding of how students learn, and an ability to use appropriate teaching procedures, materials, and evaluation techniques. A very important part of the elementary teacher preparation is the provision for student teaching in actual school situations.

Specific department requirements for students majoring in Elementary Education include: ED 330, 340, 350, 390, 462, and 492.

In addition to general education requirements, courses required in other departments include: ED 420, ED 480, AV 310, and PE 330.

Elementary majors must have a concentration in one of the following fields: English, Speech, Art, Music, Modern Languages, History, Urban Education, Anthropology, Psychology, Sociology, Biology, Earth Science, Chemistry, Physics, Physical Science, Mathematics, Library Science, Kindergarten-Primary, Special Education, Instructional Media, or Physical Education. This concentration will consist of at least nine semester hours credit beyond the general education requirements.

Ed 220 Introduction to Strategies of Teaching 3 crs.

Taken by sophomore elementary majors as their first course in professional education. Observation of elementary-age children in a classroom setting, opportunity for actively working with such children, confirmation of the choice of teaching as a career and the beginning of the development of skills needed to be a successful teacher. *Mr. Wolpert.*

ED 330 Teaching of Reading in the Elementary School**3 crs.**

Prq.: PY 200.

A consideration of how reading instruction is initiated, how basic reading abilities are developed, and how growth in voluntary reading is encouraged. The essentials of an effective developmental reading program will be examined with attention to organizing groups and evaluating progress. *Professor Deasy, Assistant Professor King, Assistant Professor Bizinkauskas.*

ED 340 Methods and Materials in Elementary Language Arts**3 crs.**

Prq.: PY 200.

Stress on the new language-focused approach to English and the modern concepts of English grammar and usage. Creative strategies and ideas in teaching the skills and abilities of listening, speaking, and writing. *Associate Professor Wood, Associate Professor Nadal.*

ED 350 Methods and Materials in Elementary Mathematics**3 crs.**

Prq.: PY 200 and MA 107.

Acquaintance with the purpose and content of the contemporary elementary school mathematics curriculum. A wide variety of effective teaching procedures and instructional materials designed to meet the varying abilities within the elementary school classroom. *Assistant Professors Kent and Phillips.*

ED 370 Kindergarten Theory and Methods**3 crs.**

Prq.: PY 200.

The philosophy of modern kindergarten education including exploration of emerging theories and new approaches. Developmental characteristics and learning styles of the young child are studied and related to initial school experiences designed to foster maximum growth. Curriculum methods and materials are examined and evaluated. Opportunities will be provided to observe the kindergarten child in the classroom. Required of all Elementary majors with Kindergarten-Primary Concentration. *Assistant Professor Doyle.*

ED 390 Supervised Student Teaching in the Campus Schools**6 crs.**

Prq.: PY 200.

The Campus Schools serve as laboratories in which students engage in the directed study of children in learning situations as they are encountered in a modern school. As the study progresses, students participate increasingly in the activities of the school to the point at which they can undertake the duties of the room teacher. Included are several hours of weekly conferences with the supervising teachers, and weekly seminars with specialists in the fields of art, music, speech, and physical education. One half-day for one semester. *Associate Professor Dickinson and Staff.*

ED 454 Seminar in Elementary Education**3 crs.**

A culmination of all professional experiences in preparation for teaching. Included are review and evaluation of current elementary school practices, discussion of professional ethics and school law, professional growth opportunities, procedures for securing a teaching position, and preparation for and the responsibilities of the first teaching position. Open to all Senior Elementary majors. *Associate Professor Nadal.*

ED 462 Science and Social Studies Methods and Materials in Elementary Schools

3 crs.

Prq.: PY 200.

The goals of scientific inquiry and responsible citizenship. The establishment of objectives and the selection of appropriate methods, materials, and techniques of planning to meet these objectives. Current trends in the teaching of both science and social studies. Innovative ideas found in the newer programs. *Professor MacCurdy, Assistant Professor Thornell.*

ED 474 Methods and Materials in Primary Education

3 crs.

Prq.: PY 200.

Ways of teaching Primary-Grade children, taking into consideration the basic philosophy of their education and promoting an understanding that each child is a unique individual. Stress of effective organization and management, what to teach, how to teach, the importance of skill development, the necessity for drill, and the use of practical creative techniques. Required of all Elementary majors with Kindergarten-Primary Concentration. *Associate Professor Wood.*

ED 492 Supervised Teaching in Public Schools—Elementary

6 crs.

Continuous supervised experience in all applicable elementary school activities. Experience in the study of individual differences, teaching techniques, and classroom management. Opportunities available in a variety of instructional environments. Supervision by the cooperating teacher and the college supervisor. Seminars may be held to exchange experiences. Students carry a minimum responsible teaching load equal to 50% of the cooperating teacher's assignment. Required of all Elementary majors. Full-time for one quarter. *Associate Professor Baker and Staff.*

ED 493 Supervised Teaching in Public Schools—Elementary

3 crs.

For Elementary majors concentrating in Special Education or Library Science who do not take ED 492, but do one-half their student teaching in elementary education and one-half in the area of their concentration. Similar to ED 492 but for one-half the time. *Associate Professor Baker and Staff.*

ED 494 Supervised Teaching in Public Schools—Special Education

3 crs.

Taken in combination with ED 493 by Elementary majors concentrating in Special Education who do one-half their student teaching in this area during which continuous supervised experiences under regular special class conditions will be provided. *Associate Professor DeLeo and Staff.*

ED 496 Supervised Teaching in Public Schools—Library Science

3 crs.

Taken in combination with ED 493 by Elementary majors concentrating in Library Science who do one-half their student teaching in this area during which continuous supervised experiences in Library Science are provided. *Associate Professor Bouchard and Staff.*

DEPARTMENT OF ENGLISH

Professor Harold Ridlon, *Chairman*

Professors: Barbara Chellis, Joseph DeRocco, Samuel Sheinfeld.

Associate Professors: Frances Guerin, Mary Jarvis, Virginia Joki

Charles McGinnis, Joseph Yokelson.

Assistant Professors: Marcia Anderson, Barbara Apstein, Harold DeLisle,

Donald Johnson, Grant Keener, James Nerney, George Smith,
Phyllis Toback, Clifford Wood.

Instructors: Charles Angell, Charles Fanning, John Porter, Lois Poule,
Judith Stanton, Paula Vadeboncoeur.

The program of study for English majors aims to give students an acquaintance with the history and background of English and American literature, an understanding of great literary works, and the ability to analyze, interpret, and appreciate what they read.

A grade of C or above in EN 101, 102 is a prerequisite for continuation as an English major. Students majoring in English may well wish to take the following courses: EN 200, or its equivalent in composition above the freshman level; 221, 241, 305, 331 or 332; a minimum program for the major includes, in addition to EN 101, 102, 3 semester hours in each of the following: English literature before 1800; English literature after 1800; and American literature. The total for the major is not less than 36 credits which may include the general education requirements of EN 101, 102, and 3 semester hours of literature.

EN 101, 102 English Composition

3 crs. for each semester.

The aim of English Composition is to develop greater awareness of the potential of the language, to encourage responsibility for its more effective use, and to provide opportunity for frequent directed practice in writing. Through the use of literary models such as essay, poem, short story, novel, and drama, students will be trained to think, speak, read and write more effectively. EN 101 is prerequisite to EN 102. *Professor Ridlon and Staff.*

EN 200 Advanced Composition

3 crs.

Expository writing is taught through frequent practice, analysis of models, and criticism by instructor and students. Opportunity is available for the student to develop his writing in any specific area he chooses, but emphasis will be on satire, argument, critical analysis, exposition, and description. Some attention will be given to the major developments in English prose style since 1600. *Professor DeRocco and Staff.*

EN 201 Writing and the Teaching of Writing

3 crs.

Writing, criticism, creativity. Student participation in criticism as a learning device and as a means to a reasonable load for the teacher. Objective is to improve the student's writing skill by the same techniques he can use in teaching the skill. Text by Don Murray. *Assistant Professor Nerney.*

EN 211, 212 Literary Classics of Western Civilization

3 crs. for each semester.

Through classic examples of epic, myth, sacred history, parable, allegory, tragic and comic drama, philosophical dialogue, satire, lyric, and novel, the student will be introduced to the principal literary forms through which great writers, from ancient times to the twentieth century, have contributed to the religious, intellectual, moral, and esthetic traditions of Western culture. *Associate Professor Guerin and Staff.*

EN 215 Comparative Drama**3 crs.**

A study of plays of different periods dealing with the same mythological or historical themes. Included will be plays on the Oedipus theme, from Sophocles to Cocteau; plays about the House of Atreus, from Aeschylus to Sartre; plays about Antony and Cleopatra, from Shakespeare to Shaw; and plays about Joan of Arc, from Schiller to Anouilh. The larger purpose of the course will be to explore the freedom within limits of an artist who chooses to work with established plot materials. *Assistant Professor Anderson.*

EN 221, 222 Major English Writers**3 crs. for each semester.**

Representative works by the major English writers will be studied both formally and historically to develop an understanding of the genres, styles, and themes which characterize English imaginative and critical writing. The first semester will examine works from the Anglo-Saxon period to the eighteenth century; the second, works of the nineteenth and twentieth centuries. *Associate Professor Yokelson and Staff.*

EN 225 The Theme of Love**3 crs.**

Various literary treatments of the theme of love will be approached through such works as the following: Chaucer, *Troilus and Criseyde*; Donne, Poetry; Shakespeare, *Romeo and Juliet*, *Antony and Cleopatra*; Dryden, *All for Love*; Byron, *Don Juan*, Cantos I-IV; Bronte, *Wuthering Heights*; Browning, Poems; Henry James, *The American* or *The Portrait of a Lady*; Lawrence, *Sons and Lovers*; Hemingway, *A Farewell to Arms*. *Associate Professor Yokelson.*

EN 230 Creative Writing**3 crs.**

Fiction, non-fiction, verse, drama or any experimental forms may be undertaken by the student. Class discussions will center on the examination of both professional and student efforts. Frequent conferences will be held with individual students. *Assistant Professors DeLisle and Wood.*

EN 231, 232 Major American Writers**3 crs. for each semester.**

A general survey of American Literature from the colonial beginnings to the present. Writers such as Franklin, Edwards, Irving, Poe, Hawthorne, Emerson, Whitman, Dickinson, Twain, James, Frost, Eliot, Faulkner, and Hemingway will be studied in their social and cultural contexts. *Assistant Professor Anderson and Staff.*

EN 235 The Short Novel**3 crs.**

Prq.: consent of the instructor.

Works selected from such writers as Conrad, James, Faulkner, Mann, Kafka, and Dostoevsky. *Professor Sheinfeld.*

EN 238 The Short Story**3 crs.**

The primary focus will be on the examination of the relationship between form and content in several British, American, and continental short stories. A secondary concern will be the historical development of the genre. *Assistant Professor DeLisle.*

EN 241, 242 Shakespeare**3 crs.**

A general introduction to Shakespeare's plays set against the background of the times. Representative selections from the tragedies, comedies, and histories will be studied in detail. *Professor Ridlon and Staff.*

EN 260 Literature of the Continental Renaissance 3 crs.
Selected works of Petrarch, Boccaccio, Machiavelli, Erasmus, Castiglione, Rabelais, Cellini, Montaigne, Cervantes, and Ronsard representing prevailing literary themes and techniques. Lectures and discussions on the art, history, philosophy, and music of the age will be offered by faculty in these disciplines. *Assistant Professor DeLisle.*

EN 280 Journalism 3 crs.
Students will be helped to develop skills in copyediting and proofreading with special emphasis given to objective news story writing. Some attention will be given to dramatic criticism and sports writing. The workshop approach will be used. Not offered in 1972-1973.

EN 290 Realism and Naturalism in American Literature 3 crs.
Studies in the fiction of Howells, James, Stephen Crane, Frank Norris, Theodore Dreiser, and in the twentieth-century extensions of realism in the novels of writers such as Sinclair Lewis, Sherwood Anderson, Dos Passos and Farrell. Attention will also be paid to the proselytizing criticism of the first generation of realists, notably James's Prefaces and Howells' essays. *Mr. Fanning*

EN 305 History of the English Language 3 crs.
Origins and development of English. Selected readings in Old and Middle English. *Professor Sheinfeld.*

EN 311 The Negro in U. S. Literature 3 crs.
Prq.: EN 231 or EN 331 or consent of the instructor.
Autobiographies and fiction beginning chronologically with *The Life of Frederick Douglass*, with particular attention paid to *Uncle Tom's Cabin*, *Native Son*, and *Invisible Man*. *Professor Chellis.*

EN 312 Studies in Modern British Fiction 3 crs.
Prq.: EN 222 or consent of the instructor.
Readings in selected twentieth-century British novelists, such as: E. M. Forster, D. H. Lawrence, James Joyce, and Graham Greene. *Associate Professor Yokelson.*

EN 314 Medieval English Literature 3 crs.
Prq.: EN 211, or EN 221 or consent of the instructor.
Selected readings in non-Chaucerian writing: Langland, Gower, romance, lyrics, drama. Not offered in 1972-1973.

EN 320 Chaucer 3 crs.
Prq.: EN 222 or consent of the instructor.
Troilus and Criseyde and selected readings from the *Canterbury Tales*. *Staff.*

EN 322 The Age of Pope 3 crs.
The literature of the neo-classical period, with emphasis on the works of Pope, Swift, Gay, Addison and Steele. *Assistant Professor Johnson.*

EN 323 Linguistics 3 crs.
The generative-transformational theory of syntactic structures as applied to the English language. Selected readings on various aspects of linguistics. *Professor Sheinfeld.*

EN 324 Linguistic History of the English Language 2 crs.
Readings and linguistic analysis of Old, Middle and Modern English. Four periods weekly for one quarter. *Professor Sheinfeld.*

EN 330 Modern American Fiction	3 crs.
Prq.: EN 232 or consent of the instructor.	
American fiction since World War II: Warren, Mailer, Salinger, Bellow, Ellison, Malamud, and others.	
<i>Associate Professor Yokelson.</i>	
EN 331 U. S. Literature in the Nineteenth Century	3 crs.
Selected readings in C. B. Brown, Cooper, Hawthorne, Poe, Emerson, Thoreau, Whitman, and Dickinson. <i>Professor Chellis.</i>	
EN 332 U. S. Literature in the Nineteenth Century	3 crs.
Prq.: EN 231 or EN 331.	
The novels and tales of Melville, Twain, Hawthorne, and James. <i>Professor Chellis.</i>	
EN 335 Elizabethan and Jacobean Drama	3 crs.
Reading and discussion of a number of plays with attention to contemporary social developments as well as to the historical development of the English play. <i>Staff.</i>	
EN 340 Literature of the English Renaissance	3 crs.
The non-dramatic literature of the Age of Shakespeare including the reading of works by such writers as Sidney, Spenser, Nashe, Marlowe, and Drayton. Although the emphasis will be on textual analysis, the historical, social, and cultural background of the period will also be considered. <i>Staff.</i>	
EN 346 Southern Literary Renaissance	3 crs.
Beginning with the Fugitives in the 1920's (Robert Penn Warren, Allen Tate, John Crowe Ransom, and Donald Davidson primarily) and their concern with the problem of the Southern writer's identity as both a Southerner and an artist, the focus will center on the writings of such contemporary figures as William Faulkner, Tennessee Williams, Katherine Anne Porter, Flannery O'Connor, Carson McCullers, Eudora Welty, and Peter Taylor. <i>Staff.</i>	
EN 350 Modern English Novel	3 crs.
A selective survey of major contributors to the English novel from Joseph Conrad through the school of the "Angry Young Men." Major attention will be given to the analysis of specific texts. <i>Associate Professor Yokelson.</i>	
EN 353 Modern European Drama	3 crs.
Main forces in Modern European drama starting with Ibsen. <i>Associate Professor Guerin.</i>	
EN 356 Modern American Drama	3 crs.
Selected plays of dramatists from O'Neill to Albee. <i>Associate Professor Guerin.</i>	
EN 360, 361 The English Novel	3 crs. for each semester.
The development of the English novel, including the works of Defoe, Richardson, Fielding, Smollett, Sterne, Austen, and Scott in the first semester, and Dickens, the Brontes, Thackeray, Eliot, Trollope, Conrad, and Hardy in the second semester. <i>Mrs. Toback.</i>	
EN 365 Victorian Prose and Poetry	3 crs.
The major emphasis will be placed on the poetry of Tennyson, Browning, and Arnold, but the works of other nineteenth-century poets such as Hopkins and Hardy will also be read and discussed. The essays of Carlyle, Arnold, Newman, Huxley, and others will be read in conjunction with the poetry. <i>Assistant Professors DeLisle and Nerney.</i>	

EN 366 Tennyson, Browning, and Arnold 3 crs.

These major nineteenth century authors will be studied in some detail, with particular reference to the historical, social, and cultural milieu within which they wrote. *Staff*.

EN 367 English Literature of the 1890's 3 crs.

The minor writers of the late nineteenth century will be examined from an esthetic, social, and intellectual point of view. Not offered in 1972-1973.

EN 370 Seventeenth Century Literature 3 crs.

This course is an introduction to the prose and poetry of the Seventeenth Century in England, exclusive of Milton. Such writers as Donne, Jonson, Bacon, Burton, Browne, and Dryden will be examined, and various persistent elements, such as the classical influence, will be explored. *Associate Professor McGinnis*.

EN 380 Milton 3 crs.

The main poetical works of Milton: *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, the minor poetic works, and selected prose. Not offered in 1972-1973.

EN 383 Modern Irish Literature 3 crs.

Irish writing from 1890 to the present, with special emphasis on the works of Yeats, Synge, O'Casey, Joyce, O'Conner, and O'Faolain. *Assistant Professor Gannon*.

EN 386 English Romantic Poets 3 crs.

Selected poetry and prose of Wordsworth, Coleridge, Shelley, and Keats will be studied with the principal object of understanding the character and modes of expression of each poet's imaginative vision. Consideration will be given to historical background and to developments in philosophy and esthetic theory which have a direct bearing on Romantic poetry. *Professor DeRocco*.

EN 387 Indo-Anglian Literature 3 crs.

Literature written in English by Indian writers. The emphasis will be on fiction, particularly the novels and short stories dealing with the conflict between old and new in Indian national life. Not offered in 1972-1973.

EN 390 Literary Criticism 3 crs.

The history of literary criticism from Aristotle to the present. Emphasis will be placed on those persistent esthetic, psychological, social, and cultural patterns which have helped shape the literature of our own age. *Staff*.

EN 391 Modern Literary Criticism 3 crs.

Several twentieth-century approaches to literary analysis, interpretation, and evaluation. Particular attention will be given to literary concepts derived from psychoanalysis, sociology, anthropology, semantics, philosophy, and theology. Such topics as existentialist, criticism, the "new criticism," and the theory of myth and symbol will be considered. Not offered in 1972-1973.

EN 393 Modern British Poetry 3 crs.

The major British poets of the twentieth century, with particular emphasis on the works of Hopkins, Yeats, Eliot, and Thomas. Not offered in 1972-1973.

EN 394 Modern American Poetry 3 crs.

The major American poets of the twentieth century, with particular emphasis on the works of Robinson, Frost, Crane, Auden, Williams, and Stevens. *Staff*.

EN 395 Studies in Recent American Poetry 3 crs.

Intensive study of some of the major figures in American poetry of the past ten or fifteen years: Theodore Roethke, Robert Lowell, and John Berryman will certainly be included. Also, three or four poets to be selected from the following list: Richard Eberhart, Richard Wilbur, W. D. Snodgrass, W. S. Merwin, Sylvia Plath, James Wright, James Dickey, Randall Jarrell, Gary Snyder. *Associate Professor Joki.*

EN 400 Techniques of Literary Research 3 crs.

Research procedures, with special reference to the materials and methods of literary study and publication. Various critical approaches to literature will be examined, and some evaluation of scholarly procedure will be made. *Professor Ridlon.*

EN 420 English Education Seminar 3 crs.

Limited in enrollment to seniors contemplating secondary school teaching. The problems of English education in a rapidly changing social, cultural, and intellectual environment. Reports, small group discussions, and meetings with professionals in the field. *Associate Professor Joki and Staff.*

EN 492 Reading and Research Credits arranged

Independent study under the guidance of individual members of the department. To be considered for admission, one must be a senior of honors standing and must submit a general proposal for a topic or area of study. *Professor Ridlon and Staff.*

EN 495 Seminar in English Literature 3 crs.

This seminar, limited to seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in English literature, the topic changing from year to year.

EN 496 Seminar in American Literature 3 crs.

This seminar, limited to seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in American literature, the topic changing from year to year.

EN 497 Seminar in World Literature 3 crs.

This seminar, limited to seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in world literature, # the topic changing from year to year.

Humanities Elective**HU 201 Comparative Religion 3 crs.**

An examination of the origins, development, and basic tenets of the major world religions from earliest times to the Moslem era, with particular emphasis on ancient Near Eastern religions, Judaism, Christianity, and Islam. *Assistant Professor Christensen.*

DEPARTMENTS OF HEALTH AND PHYSICAL EDUCATION**Men's Department**

Associate Professor Harry Lehmann, *Chairman*

Associate Professors: Thomas Knudson, Edward C. Swenson.

Assistant Professor Peter Mazzaferro.

Instructors: Edward Braun, Joseph Yeskewicz.

Women's Department

Professor Catherine Comeau, *Chairman*

Associate Professors: Patricia Phillips, Mary Lou Thornburg.

Assistant Professors: Ann Coakley, Regina Gross,

Virginia Hogg, Shirley Krasinski, Johanne Smith,

Sharon Tufts, Cora Wells.

Instructors: Margot Hurst, Marjorie Rugen, Hazel Schopp,

Carol Wolfgram, Lynne Yeamans.

The Men's and Women's Departments jointly offer a program leading to the degree of Bachelor of Science in Education with a major in Health and Physical Education for men and women, and Health and Physical Education courses for all students.

The program of study for Physical Education Majors has been developed so as to provide the student with both professional development and personal enrichment. The course of study includes general education, education and professional courses so as to prepare the student to teach or pursue other positions related to the fields of Health and Physical Education.

In addition to the General Education core requirements the following courses are required: PE 101, 102, 201, 202, 304, 401, HE 131, 132, 133, 231, 333, ED 392, 471, 480. Students who wish to concentrate in Elementary Physical Education must take PE 301, 341, 342. Those concentrating in Secondary Physical Education must take PE 312 and 3 credits of elective activity courses. Students may elect to take both concentrations. All physical education majors must take the following physical education activity core courses with the exception of those listed M-men only, W-women only: PE 141 Introduction to Physical Education Lab; PE 150M Flag Football; PE 151W-152W Field Hockey I, II; PE 170 Survey of Dance; PE 174 Folk Dance I; PE 180W-181W—180M-181M Gymnastics I, II; PE 467M Volleyball; PE 250M Baseball - Softball; PE 261W or 261M Basketball; PE 271W-272W Modern Dance I, II; PE 275 Square Dance; PE 282 Swimming I; PE 283W or 283M Track and Field; PE 291 Tennis; PE 369M Soccer; PE 382M Progressive Resistance Exercises.

All students (with the exception of Physical Education Majors) must successfully complete HE 110 and three semesters of physical education activities. Elementary Education Majors must take PE 330 in addition to the aforementioned requirement. All students must take one semester of physical education activities Freshman year (the semester when they are not taking HE 110) and two semesters Sophomore year. Each Activity course meets twice a week. Men must take at least one activity and no more than two in each of the following four categories: 1) Team Sports: Basketball, Flag Football, Soccer, Softball, Volleyball; 2) Individual and Dual Sports: Badminton, Bowling, Golf, Recreational Games, Tennis; 3) Fitness Sports: Conditioning, Gymnastics, Track and Field, Weight Training Wrestling; 4) Aquatics: Beginning Swimming, Intermediate Swimming, Advanced Swimming.

Women may elect any physical education activity course offered which best meets their needs or interests.

HE 110 Personal Health	2 crs.
Attitudes and practices as they influence effective living; common adult health problems; community health services and adult responsibility. <i>Associate Professor Lehmann, Phillips, Assistant Professor Hogg.</i>	
HE 131 Anatomy	3 crs.
Includes a fundamental study of the human body and its parts, with special emphasis on bones, muscles, and tissues. <i>Assistant Professor Tufts.</i>	
HE 132 Kinesiology	3 crs.
Prq.: HE 131.	
Detailed anatomical and mechanical analyses of fundamental motor skills. <i>Assistant Professor Tufts.</i>	
HE 133 Health Science	3 crs.
Attitudes and practices as they influence effective living; common adult health problems; community health standards and services; special problems of concern in the area of community health. <i>Associate Professor Phillips.</i>	
HE 231 Principles and Practices of Health Education	3 crs.
Selection of content for health courses with emphasis on current trends; analysis of the learning and teaching process as applied to health education. <i>Associate Professor Phillips.</i>	
HE 331 First Aid and Advanced First Aid	1 cr.
A theory and practice course in the immediate care of injuries and their prevention. <i>To be announced.</i>	
HE 332 Care and Prevention of Athletic Injuries	3 crs.
Theory and practice in bandaging, taping, and caring for athletic injuries. Also emphasis on prevention and rehabilitation. <i>Mr. Braun.</i>	
HE 333 Physiology of Exercise	3 crs.
Prq.: BI 385.	
Includes the study of various systems, their interrelationships and adjustments during exercise and as a result of training. Emphasis is on current research findings and what remains to be discovered in man as a moving being. <i>Assistant Professor Tufts.</i>	
HE 436 Current Issues in Health Education	3 crs.
Prq.: Health Science.	
Designed to acquaint the student with current health issues and trends related to the school and community. <i>Assistant Professor Hogg.</i>	
PE 101 Introduction to Physical Education	3 crs.
An overview of the field of Physical Education as an integral part of education with emphasis on current trends, philosophy, objectives, relationship of the field to man, society and the role and responsibilities of the Physical Educator. <i>Professor Comeau.</i>	
PE 102 Foundations in Study of Human Movement	3 crs.
An historical study of the development of man and movement will be undertaken with emphasis on the biological, psychological, sociological, cultural and philosophical implications. This course is designed to lay the foundation and provide for the understandings necessary to approach the study of physical education as a discipline in the twentieth century. <i>Associate Professor Phillips.</i>	
PE 141 Introduction to Physical Education Laboratory	1 cr.
Fundamentals of movement as it relates to all physical activity. <i>Assistant Professor Smith.</i>	

PE 201 Physical Education Curriculum**3 crs.**

Study of current trends and theories of curriculum design and their application to the development of the Physical Education Program, grades K-12. *Associate Professor Thornburg.*

PE 202 Principles of Motor Learning**3 crs.**

Introduces the student to the concepts and principles concerned with learning and performance of movement skills. *Assistant Professor Smith.*

PE 301 Movement Education in Elementary Schools**4 crs.**

Designed to introduce the movement experiences of children in the elementary schools. Emphasis is placed on self awareness through movement, on discovering and understanding the environment and on controlling and adjusting to the environment. 5 periods weekly. *Mrs. Schopp.*

PE 304 Adapted Physical Education**3 crs.**

A course designed to introduce students to the physical education programs suited to children and youth with disabilities who require a restricted or individualized physical education program. An opportunity to observe and work with children with disabilities is provided. *Assistant Professor Smith.*

PE 306W Officiating**3 crs.**

Prq.: PE 151W and PE 261W or consent of the instructor.

General techniques with emphasis on field hockey and basketball. Practical as well as theoretical examinations are included with opportunities to earn recognized ratings. Four periods weekly. *To be announced.*

PE 307 Evaluation in Physical Education**3 crs.**

Principles of effective evaluation. Application of principles through choice and administration of tests and other measurement devices. Interpretation and use of obtained results. *To be announced.*

PE 312 Secondary School Physical Education**3 crs.**

In depth study of physical education program grades 7-12. Emphasis on educational philosophies and policies, teaching-learning process, and program implementation in the contemporary setting. *Associate Professor Thornburg.*

PE 330 Physical Education for the Elementary Teacher**2 crs.**

An introduction to the philosophy, objectives, and activities of the elementary physical education program with emphasis on the part played by the classroom teacher. Provision for visits to the Campus Laboratory School. *Staff.*

PE 334 Rhythmic Analysis in Dance and Related Movement**3 crs.**

Prq.: 3 semesters of PE activities.

Emphasis on relationship of rhythm and basic dance skills, composition of dances, motor skills performed to music or to rhythm, and methods of teaching folk, round, and square dance. *Associate Professor Phillips.*

PE 335 Analysis of Movement Skills for Elementary Schools**3 crs.**

Prq.: 3 semesters of PE activities, PE 330, PE 370

Performance of fundamental movement skills and sports skills through required lecture and directed laboratory experiences. Two lecture and two laboratory periods weekly. *Assistant Professor Krasinski.*

PE 340 Recreation in the United States 3 crs.

The history of recreation and its impact on society today and in the future; school camping, camp counseling, outdoor recreation, and recreation in the elementary school program. *Assistant Professor Gross.*

PE 401 Current Issues in Physical Education 3 crs.

The examination and description of contemporary forces and trends in education and their implications for physical education. Opportunities will be available for students to present orally and in writing ideas relevant to professional concerns. *Professor Comeau.*

PE 406 Independent Study 3 crs.

Open to Junior and Senior Health and Physical Education Majors. Approval of the Department Chairman required. An opportunity to do independent study and develop a project or do research in an area of interest in Health or Physical Education. Students will be assigned faculty advisors with whom they will meet at regular intervals. *Staff.*

PE 407 Physical Education for Exceptional Children and Youth 3 crs.

The planning and development of physical education programs considered appropriate to the needs, interests and abilities of exceptional children and youth. Emphasis will be placed on the contribution that physical education can make to the education and well being of the physically, mentally and emotionally handicapped child. *Assistant Professor Smith.*

PE 408W Coaching 3 crs.

Open to Junior and Senior Health and Physical Education Majors. The application of teaching and learning principles as related to the player, team, coach and athletic program. Areas to be included will be psychology and philosophy of coaching, organization and administration of the program, coaching techniques, conditioning and evaluative procedures. *Associate Professor Thomburg.*

PE 410 Organization and Administration of Health, Physical Education and Recreation 3 crs.

Development of policies; administrative practices; interfaculty and intrastaff relationships; supervision; public relations; fiscal practices; development and use of facilities. *Associate Professor Lehmann.*

PE 411 Physical Education in Agency Programs 3 crs.

In depth study of physical education within the social agency setting with emphasis on program development and instruction supplementing the normal school program. *To be announced.*

PE 415M Methods and Techniques in Coaching Baseball 1 cr.

Individual offensive and defensive fundamentals; offensive and defensive team play; administration. *Associate Professor Lehmann.*

PE 416M Methods and Techniques in Coaching Basketball 1 cr.

The theory and practice of basketball coaching; including the study of offensive and defensive systems, drills, training and conditioning of basketball squads. *Associate Professor Knudson.*

PE 417M Methods and Techniques in Coaching Football 1 cr.

History of football; fundamentals of line and backfield play; team defense and offense; field generalship; scouting; athletic injuries; study of rules. *Assistant Professor Mazzaferro.*

PE 418M Methods and Techniques in Coaching Gymnastics 1 cr.

Open to all students who have completed their physical education requirements. Emphasis on teaching techniques to help develop a competitive Gymnastics Team. *To be announced.*

PE 419M Methods and Techniques in Coaching Ice Hockey Practice and Theory of Fundamental Ice Hockey Techniques. <i>To be announced.</i>	<i>1 cr.</i>
PE 420 Scientific Foundations of Physical Education Prq.: PY 224, PE 330	<i>3 crs.</i>
Integration of the concepts of anatomy, kinesiology, and physiology of exercise relative to a program of elementary physical education. Application is made to the characteristics of growth and development of children in structuring physical activity to their needs. <i>Assistant Professor Tufts.</i>	
PE 421M Methods and Techniques in Coaching Soccer Teaching the skills of kicking, trapping, heading, dribbling, tackling, throwing; defensive and offensive soccer. <i>Associate Professor Swenson.</i>	<i>1 cr.</i>
PE 422M Methods and Techniques in Coaching Track and Field How to train for track and field events. Form and technique in track and field. <i>Associate Professor Swenson.</i>	<i>1 cr.</i>
PE 423 Methods and Techniques in Coaching Swimming Open to all students who have completed their Physical Education requirements and have an American Red Cross Senior Life Saving Certificate. Emphasis placed on organizing, developing, and training Swim Teams on the Age Group and High School level. <i>Mr. Yeskewicz.</i>	<i>1 cr.</i>
PE 424M Methods and Techniques in Coaching Wrestling Fundamentals in free-style wrestling with emphasis on basic maneuvers. Theory and practice work. <i>To be announced.</i>	<i>1 cr.</i>
PE 425M Officiating Baseball Rules and techniques in officiating baseball; organizations of officials; practical experience. <i>Associate Professor Lehmann.</i>	<i>1 cr.</i>
PE 426M Officiating Basketball Rules and techniques in officiating basketball; organizations of officials; practical experience. <i>Associate Professor Lehmann.</i>	<i>1 cr.</i>
PE 427M Officiating Football Rules and techniques in officiating football; organizations of officials; practical experience. <i>Associate Professor Lehmann.</i>	<i>1 cr.</i>
PE 428M Officiating Soccer Rules and techniques in officiating soccer; organizations of officials; practical experience. <i>Associate Professor Swenson.</i>	<i>1 cr.</i>
PE 429M Methods and Techniques in Coaching Lacrosse The theory and practice of Lacrosse coaching; including the study of offensive and defensive fundamentals and systems, drills, training and conditioning of Lacrosse squads. <i>To be announced.</i>	<i>1 cr.</i>
PE 443 Perceptual Motor Learning and Gymnastics Introduction to perceptual motor functioning of elementary school children with supervised opportunities to analyze knowledge and apply practical experiences. Gymnastics at the elementary school level will give primary consideration to teaching and spotting techniques. Two lecture and two laboratory periods weekly. <i>To be announced.</i>	<i>3 crs.</i>

**ED 392 Supervised Student Teaching in the Campus
Laboratory School****3 crs.**

A Professional semester of supervised teaching experiences in the major areas of physical education for elementary school children. Open to juniors majoring in Health and Physical Education. *Staff.*

ED 471 Supervised Student Teaching in Public Schools **6 crs.**

Full-time teaching for one quarter with supervision provided by members of the department faculty. *Staff.*

Physical Education Activity Courses for all Students .

Courses for both men and women: Archery; Aquatics (Swimming, life saving, water safety instructors, synchronized, diving); badminton; basketball; bowling; fencing; folk dance; golf; gymnastics; modern dance; recreational games; skiing; square dance; softball; tennis; volleyball.

Courses for men: Conditioning; flag football; lacrosse; soccer; track and field; weight training; wrestling.

Courses for women: Field hockey; movement and relaxation.

Physical Education Activity Electives for Health and Physical Education Majors

Archery—PE 497; Aquatics—Advanced recreational aquatics—PE 482, skin and scuba diving PE 490, Swimming II PE 386, water stunts and diving—PE 284; badminton I—PE 398, II—PE 498; basketball II—PE 466; boating and canoeing—PE 491; bowling—PE 496; Dance—folk dance II PE 377, Modern Dance III—PE 471, IV—PE 472, Square Dance Calling—PE 478; fencing—PE 481; golf I—PE 389, II—PE 489; gymnastics III—PE 388 (women), lacrosse I—PE 366, II—PE 367 (women); recreational games—PE 440; skiing—PE 396; softball—PE 469 (women); soccer—PE 369 (women); tennis II—PE 397; track and field II—PE 483 (men) volleyball—PE 367 (women).

DEPARTMENT OF HISTORY

Professor Jordan Fiore, *Chairman*

Commonwealth Professor Annabelle Melville.

Professors: Ralph Bates, William Cole, Jr., Jane Herrick, Stephanie Husek.

Associate Professors: Gerald Doiron, Donald Keay, Mary Noel, Arthur Oien, Maurice Rotstein, Benjamin Spence.

Assistant Professors: Duane Christensen, Dennis Lythgoe, Lucille O'Connell, Philip Silvia, Jr., Alfred Wolff.

Instructors: Jean Stonehouse, Thomas Turner, David Culver.

The department has four objectives: 1) to contribute to the general education program by offering history courses to all students in their first two years; 2) to prepare students planning to teach history on the secondary level; 3) to provide a breadth in history enabling students to do graduate work in the field of history; and 4) to offer advanced courses to

those majoring in the elementary curriculum to enable them to enrich the teaching of history at that level.

History program for Bachelor of Arts

All B.A. students normally take HI 111, 112 in the Freshman year and may, as part of their Social Science requirements, take HI 221, 222 in the Sophomore year. However, those who do not elect HI 221 must take PO 273 in addition to their other Social Science courses.

Those majoring in history, after completing HI 111, 112, 221, and 222 (for a total of 12 credits), will continue to take 12 to 24 additional credits in advanced history courses in their third and fourth years. Among these, in the senior year, each student will include one seminar. All history majors are required to take at least 12 credits in non-United States history.

Those who wish to combine courses from other areas with history as a major concentration may do so with the approval of the department chairman. Non-history majors may take advanced courses in history provided they have already completed HI 112, 222.

History program for Bachelor of Science in Elementary Education

This normally includes HI 111, 112 in the Freshman year and HI 221 in the first half of the Sophomore year. Students may, in addition, take HI 222 as part of their general education requirements.

HI 111 Western Civilization to 1715 3 crs.

A historical survey of developments which have molded our culture from ancient times down to the establishment of absolutism. *Professor Fiore and Staff.*

HI 112 Western Civilization since 1715 3 crs.

Prq.: HI 111.

Continuation of the survey begun in HI 111 down to contemporary times. *Professor Fiore and Staff.*

HI 221 United States and Constitutions to 1865 3 crs.

Development of the nation from the age of exploration to the end of the Civil War. *Professor Fiore and Staff.*

HI 222 United States History since 1865. 3 crs.

Continues the study begun in HI 221 down to the present. *Professor Fiore and Staff.*

HI 315 Nineteenth Century Europe 3 crs.

From the Napoleonic era to the eve of the First World War. *Associate Professor Rotstein.*

HI 316 Twentieth Century Europe 3 crs.

Particular focus on background, development, and effects of the two world wars. *Associate Professor Rotstein.*

HI 317 British Political History since 1603 3 crs.

England and her empire to 1815 with stress on parallel developments in American history, including economic and social factors. *Commonwealth Professor Melville.*

HI 318 British Empire and Commonwealth since 1815	3 crs.
Political development to the present with emphasis on the rise and fall of the Second Empire. <i>Commonwealth Professor Melville.</i>	
HI 319 Topics in British History	3 crs.
Primarily for majors in English. Selected areas of political, economic, and social British life which nurtured the national literature. <i>Commonwealth Professor Melville.</i>	
HI 321 Topics in Recent American History	3 crs.
Prq.: HI 222. The isolationism and boom of the 1920's, the New Deal, World War Two, and the postwar period. <i>Associate Professor Spence.</i>	
HI 325 American Labor History	3 crs.
The pre-industrial and industrial periods. Emphasis on the reciprocal relationships of workingmen, Negroes, immigrants, and urbanization and industrialization. <i>Professor Cole.</i>	
HI 326 The American West	3 crs.
The westward movement, emphasizing the distinctive character of that region in its economic, social, political, and intellectual life. <i>Assistant Professor Lythgoe.</i>	
HI 327 The American South	3 crs.
Sectionalism; its causes and consequences; factors which made the South distinctive; emphasis on race relations, the Civil War and Reconstruction, agrarianism, industrialization. <i>Assistant Professor Wolff.</i>	
HI 333 Spanish America: the Colonial Period	3 crs.
Indigenous peoples of the area; exploration and conquest; institutional development of the empire to the revolts against Spain in the nineteenth century. <i>Professor Herrick.</i>	
HI 334 Spanish America: the National Period	3 crs.
Prq.: HI 333. From the revolutions against Spain to the present. Concentration on Mexico and two or three other states. <i>Professor Herrick.</i>	
HI 343 The Ancient World: Near East and Greece	3 crs.
From prehistoric times to the Hellenistic empires. <i>Associate Professor Noel.</i>	
HI 344 The Ancient World: Rome	3 crs.
From its beginnings to the barbarian invasions. <i>Associate Professor Noel.</i>	
HI 353 Historiography	3 crs.
Prq.: Admission with consent of the department chairman and the instructor. Writings of major historians; evaluation through professional journals and book reviews. Limited to fifteen. Students are expected to elect HI 354. <i>Commonwealth Professor Melville.</i>	
HI 354 Study and Writing of History	3 crs.
Prq.: HI 353. Admission with consent of the department chairman and the instructor. The techniques of historical research and preparation of papers requiring such techniques. Analysis and evaluation of source materials will be stressed. <i>Commonwealth Professor Melville.</i>	
HI 411 History of Russia	4.5 crs.
The early period as background of modern Russia. Emphasis on internal and foreign developments which resulted in the Soviet state. 3 periods weekly for one and one-half semesters. <i>Professor Husek.</i>	

HI 413 Contemporary Affairs	3 crs.
National and international problems, using magazines, newspapers, telecasts, and recent books. Political, economic, social, and scientific developments. <i>Professor Bates.</i>	
HI 419 Intellectual History of Modern Europe	4.5 crs.
From the Renaissance to the present. 3 periods weekly for one and one-half semesters. <i>Associate Professor Rotstein.</i>	
HI 421 History of Massachusetts	3 crs.
From the days of the Pilgrims and Puritans to the present. In the modern period emphasis is on social, economic, and constitutional history. <i>Professor Fiore.</i>	
HI 425 Social and Intellectual History of the United States to 1914	4.5 crs.
The economic, social, and cultural development to the eve of the First World War, with emphasis on the transformation from an agricultural to an industrial society. 3 periods weekly for one and one-half semesters. <i>Professor Fiore.</i>	
HI 430 Europe in the Middle Ages	3 crs.
From the fall of Rome to the Renaissance. <i>Associate Professor Keay.</i>	
HI 432 Modern European Imperialism	3 crs.
Africa and Asia considered as contrasting phases of European expansion in the nineteenth and twentieth centuries. <i>Associate Professor Doiron.</i>	
HI 433 Africa since 1800	3 crs.
The impact of Islamic and European cultures on the peoples of Africa; creation of colonial empires. <i>Associate Professor Doiron.</i>	
HI 436 The Renaissance and the Reformation	3 crs.
Western Europe from the decline of feudal institutions to the emergencies of the modern state system, with emphasis on culture and intellectual affairs. <i>Associate Professor Keay.</i>	
HI 437 Modern France	3 crs.
From the Revolution of 1789 to the present. <i>Associate Professor Rotstein.</i>	
HI 441 American Negro History	3 crs.
From the colonial period through the present. <i>Assistant Professor O'Connell.</i>	
HI 452 Senior Seminar in History	3 crs.
Prq.: Admission is subject to the consent of the departmental chairman and the instructor. Each senior will elect a seminar in United States, European, or Latin American history. The number of students in each one is limited. 2 periods weekly. <i>Professor Fiore and Staff.</i>	
HI 455 Nationalism in Central and Southern Europe	2 crs.
The aspirations of subject peoples and present-day tensions; the nineteenth and twentieth centuries. 4 periods weekly for one quarter. <i>Professor Husek.</i>	
HI 456 History of Brazil	2 crs.
4 periods weekly for one quarter. <i>Professor Herrick.</i>	
HI 457 Historical Museum Management	2 crs.
4 periods weekly for one quarter. <i>Visiting Lecturer.</i>	

HI 461 History of East Asia	4.5 crs.
Emphasis on China and Japan in the nineteenth century. 3 periods weekly for one and one-half semesters. <i>Professor Bates.</i>	
HI 481 United States Foreign Relations to 1900	3 crs.
From the American Revolution to 1900. <i>Professor Bates.</i>	
HI 482 United States Foreign Relations since 1900	3 crs.
<i>Professor Bates.</i>	

DEPARTMENT OF INSTRUCTIONAL MEDIA

Professor Henry Rosen, *Chairman*

Associate Professor Francis Murphy.

Assistant Professor Thomas Lee.

Instructor Robert Ward.

The Instructional Media Department offers students the opportunity to become adept at and proficient in the use of the latest theory, techniques, and technology in education. The Department makes available extensive resources, references, and work areas for previewing, analysis, development, and presentation of materials.

A minor and a concentration in Instructional Media are now available. The minor consists of 18 hours, the concentration 9 hours, under the direction of the department chairman.

IM 310 Audiovisual Methods and Materials	3 crs.
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Introduction to instructional media and technology. Instruction in and application of still pictures, slides, filmstrips, recordings, radio, television, three-dimensional materials, field trips, flannel boards, chalk boards, and specialized teaching machines. Sources of teaching aids and supplementary materials accompanies laboratory procedures. *Professor Rosen and Staff.*

IM 311 Audiovisual Methods and Materials for Special Education	3 crs.
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Same as IM 310 with guided research applicable to all areas of Special Education. *Professor Rosen and Staff.*

IM 412 Communication Theory	3 crs.
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Prq.: IM 310.

Applies basic concepts of communications to problems of teaching and learning in today's schools. Modern techniques and applications will be thoroughly discussed. *Mr. Ward.*

IM 420 Advanced Audiovisual Technique	3 crs.
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Directed study course. Development of a course of study in the student's field of concentration coordinated with instructional media and technology. *Professor Rosen.*

IM 424 Seminar in Instructional Media	Credits arranged.
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Prq.: IM 420, IM 452 and IM 460.

Systematic review of literature and research, techniques, and technology in instructional media. Reports for group discussion and analysis. *Professor Rosen.*

IM 452 Science of Photography in Education	3 crs.
Prq.: IM 310 or IM 311 or consent of the instructor.	
Basic philosophy, educational planning, and techniques of preparation of photographic instructional materials. Preparation of color and black and white slides, stills, filmstrips, transparencies for overhead projection. Emphasis upon photography and darkroom techniques. <i>Assistant Professor Lee.</i>	
IM 454 Script Writing Techniques for Radio and Television	3 crs.
Necessary approaches and techniques peculiar to the needs of radio and television. The student will write scripts for actual production in the studio. <i>Staff.</i>	
IM 456 Radio and TV Studio Operation and Control	3 crs.
The student will learn all of the technical data necessary to direct TV programs and to operate a radio station, and be prepared to take the examination for either 1st, 2nd, or 3rd class license. <i>Staff.</i>	
IM 457 Advanced Photography Techniques	3 crs.
Advanced theory of photography and the preparation of projected photographic materials; slides, stills, filmstrips, motion pictures, and overhead transparencies. Advanced techniques of darkroom usage and salon printing. <i>Assistant Professor Lee.</i>	
IM 458 Radio and TV Production	3 crs.
Designed to make the student proficient in the production of radio and TV programming, with stress upon being able to make, obtain, and set up necessary props, background, trick camera shots, and sound effects. <i>Staff.</i>	
IM 460 Graphics for Instructional Media	3 crs.
Prq.: IM 452 or consent of instructor.	
Instruction in graphic arts pertaining to new technology in education. Mechanical and hand lettering and lay-out. Preparation of materials by color-lift, thermofax, and tecnifax techniques. Basics for photocopying including 2 x 2 slides. <i>Assistant Professor Lee.</i>	
IM 464 Management of an Instructional Media Department	3 crs.
All phases of operating an Instructional Media Department; budgeting, purchasing, staffing, services, analysis of materials and equipment. <i>Professor Rosen.</i>	
IM 466 Cinematography I	3 crs.
Prq.: IM 452.	
Basic production of 8mm, standard and super 8, and 16mm motion picture films. Basic techniques involved in the production of motion picture films used in education. Not offered in 1972-1973.	
IM 468 Advanced Cinematography	3-6 crs.
Prq.: IM 452 and IM 466.	
Advanced techniques of film production in all of its technical phases, including production, design, editing, and sound synchronization for motion pictures in education. Not offered in 1972-1973.	

DEPARTMENT OF LIBRARY SCIENCE

Associate Professor Beatrice Bouchard, *Chairman*
Assistant Professor Adeline Oakley.
Instructors: Olive Lee, Richard Neubauer.

The Department of Library Science offers library instruction to all students during their freshman year, to upperclassmen in elective courses, to students who wish to minor in Library Science. The requirements for Massachusetts School Librarian certification, effective May 1, 1963, are a bachelor's degree from a college approved by the Board of Education, including at least eighteen hours in Library Science education. Courses indicated by asterisks are required for certification.

Freshmen are exposed to the Library for one quarter during the first or the second semester. One period a week is devoted to developing basic library skills, acquainting oneself with general reference literature, and meeting research problems. Required of all freshmen. 1 one-hour period weekly; no credit.

Suggested electives for students in programs other than librarianship: LI 300 for classroom teachers and students aiming for a future in school administration; LI 310 for classroom teachers and students in Special Education and Reading; LI 320 for English majors planning to teach at the Secondary School level; LI 370 for students who wish to upgrade their research skills.

LI 300 Library Services in the School**3 crs.**

The philosophy, functions, and evaluation of the library in the school for future teachers, administrators, and librarians. Correlation of the library with the modern curriculum, the use of print and non-print materials in the library, and the mutual cooperation of administration, faculty, and students. *Mr. Neubauer.*

LI 310 Children's Literature**3 crs.**

Reading interests of children from pre-school years through the elementary grades with emphasis on the contribution that reading can make toward the process of growing up; criteria for evaluation and analysis of children's books; types of books available today, considered in terms of the needs, interests, and abilities of children. Topics covered are history of literature for children; illustrators; folk-tales; myths; modern fanciful tales; fiction; poetry; books in special fields, such as history, science, travel. *Associate Professor Bouchard, Assistant Professor Oakley.*

LI 320 Literature for Young Adults**3 crs.**

Survey of literature for the adolescent, designed for junior and senior high school teachers and librarians, including a brief history of the development of this literature, evaluation of publishers, and psychology of the adolescent reader. *Assistant Professor Oakley.*

LI 370 Reference Materials and Their Use**3 crs.**

Outlines of appropriate procedures in various disciplines. Bibliographic search assignments give practical application of techniques using all the resources of the library. *Assistant Professor Oakley and Mr. Neubauer.*

LI 380 Seminar on the Book**3 crs.**

The development of the written word from the earliest alphabet to today's computerized publishing, and the housing and dissemination of the book in relation to the world of learning. *Mr. Neubauer.*

LI 430 School Library Administration* 3 crs.

Principles and practices in school library administration and service; the role of the library in the school's educational program; pupil instruction in library use; the planning and equipping of the library; and other aspects of library organization. *Associate Professor Bouchard, Mr. Neubauer.*

LI 440 Cataloguing and Classification* 3 crs.

Emphasis is on the Dewey Decimal classification and Sears Subject headings. Some time is given to the general processing of books. *Associate Professor Bouchard.*

LI 451 Storytelling 3 crs.

Examination of the literary sources, experience in selection and presentation of stories, and techniques in cultivating appreciation of literature in children from kindergarten through grade 8. *Associate Professor Bouchard.*

LI 452 Selection of Library Materials (Media Selection) 3 crs.

Criteria and policies in selection for reader interest and curriculum enrichment, with emphasis on practical applications and appraisal of bibliographic aids and current review practices. *Assistant Professor Oakley.*

LI 453 Film Study for Librarians 3 crs.

History, development, and screen conventions in the library program objectives of the school and community. Emphasis on acquiring analytic and evaluative skills and upon assessing emotional responses. *Instructor to be announced.*

DEPARTMENT OF MATHEMATICS

Associate Professor Murray Abramson, *Chairman*

Associate Professors: Robert Bent, Joseph Chiccarelli, Hugo D'Alarcao, Robert Lemos,

Henry Mailoux,

Michael Makokian.

Assistant Professors: Walter Gleason, Frank Lambiase, Richard Quindley,

I. Philip Scalisi, Donald Simpson.

Instructors: Thomas Moore, Robert Sutherland.

Since mathematics is both a cultural and technical field of study, the curriculum is planned with the following objectives: 1) to give the student an introduction to mathematics as an important area of human thought; 2) to give adequate preparation for students planning to teach mathematics on the secondary level; 3) to serve the needs of students in fields which rely on mathematics, e.g., experimental sciences, social sciences, and elementary education; 4) to give preparation to students for graduate study in mathematics and related fields.

Mathematics majors who are enrolled in the program leading to the degree of Bachelor of Arts, in addition to completing General Requirements, must satisfactorily complete the following courses: MA 101, 102, 201, 202, 301, 401, and six electives from MA 290, 302, 303, 304, 308, 316, 349, 402, 403, 406, 407, 408, 412, 415, 418.

A grade of C or above in MA 102 is required for continuation as a mathematics major.

A concentration in mathematics for students majoring in Elementary Education is comprised of three courses to be selected from MA 190, 322, 421, 422, 425.

MA 101, 102 Calculus with Analytic Geometry I-II

4 crs. for each semester.

Inequalities, functions and their graphs, the line and linear inequalities, limits and continuity, differentiation of algebraic functions and applications. The definite integral and applications, analytic geometry of the conic sections, the trigonometric and exponential functions, parametric equations and polar coordinates, calculus of vectors in a plane. Required of all freshman candidates for a degree in Mathematics, Physics, or Chemistry. Open to other qualified freshmen with consent of the Department Chairman. *Associate Professor Bent and Staff.*

MA 103, 104 Mathematical Analysis I-II

3 crs. for each semester.

Sets, algebraic functions and their graphs, topics from algebra, trigonometric functions and analytic trigonometry, logarithmic and exponential functions, analytic geometry of the line and conic sections, differentiation and integration of algebraic functions and their applications. Required of all freshman candidates for a degree in Biology or Earth Science. *Associate Professor Mailloux and Staff.*

MA 105 College Mathematics I

3 crs.

Set theory, elementary logic, modulo systems, introduction to groups and fields with emphasis on number systems, finite geometry. Required of all freshman non-science majors. *Assistant Professor Lambiase and Staff.*

MA 106 College Mathematics II

3 crs.

Prq.: MA 105.

Linear and quadratic equations, functions and their graphs, trigonometry, analytic geometry of the straight line and conic sections. Mathematics elective for non-science majors. *Mr. Moore and Staff.*

MA 107, 108 College Mathematics for Elementary Majors I-II

3 credits for each semester.

Theory of sets, relations and their properties, systems of numeration, axiomatic approach to the real number system through a study of the integers and rational numbers, elementary number theory, nonmetric and analytic geometry, groups, linear equations and inequalities, probability. *Associate Professor Makokian and Staff.*

MA 110 Elementary Statistics

3 crs.

Variance, covariance, linear correlation, general regression lines, introduction to sampling theory; and the following distributions: normal, t, chi-square and F. Required of all freshmen who are candidates for a degree in Health and Physical Education. *Assistant Professor Gleason and Staff.*

MA 190 Computer Programming

3 crs.

Prq.: MA 105 or permission of the department.

For non-science majors. The computer as a calculator, stored programs, encoding, solution of simple arithmetic and algebraic problems. Programming will be done in the FOCAL language or BASIC language on the PDP/8-I computer.

MA 201 Calculus with Analytic Geometry III

4 crs.

Prq.: MA 102.

Methods of integration and applications, solid analytic geometry, calculus of vectors in space, elements of infinite series, partial differentiation, multiple integration. *Assistant Professor Quindley and Staff.*

MA 202 Linear Algebra I**4 crs.**

Vectors and analytic geometry of space, vector spaces, systems of linear equations, determinants, applications to geometry and analysis. *Assistant Professor Lambiase and Staff.*

MA 220 Introduction to Calculus**3 crs.**

Prq.: MA 106.

Functions and limits, derivatives and antiderivatives, the definite integral, differentiation of algebraic and transcendental functions, applications. Mathematics elective for non-science majors. *Mr. Sutherland.*

MA 290 Computer Science I**3 crs.**

Prq.: MA 102 or MA 104 or permission of the department.

For science majors. Fixed and floating point formats, computer languages, flow-charting, encoding, elementary numerical analysis. Programming will be done in the FORTRAN language or BASIC language on the PDP/8-I computer. *Mr. Sutherland.*

MA 301 Abstract Algebra**3 crs.**

Introduction to the theory of rings, integral domains and fields through a study of integers, rational numbers, real numbers, complex numbers and polynomials; elementary group theory. *Assistant Professor Simpson and Staff.*

MA 302 Abstract Algebra II**3 crs.**

Prq.: MA 301.

Group theory, linear groups, rings and ideals, extensions of rings and fields. *Mr. Moore.*

MA 303 Number Theory**3 crs.**

Development of the number system, the Euclidean Algorithm and its consequences, theory of congruences, number-theoretic functions, Diophantine equations, quadratic residues. *Associate Professor Makokian.*

MA 304 Higher Geometry**3 crs.**

Axiomatic systems, finite geometries, introduction to synthetic and analytic projective geometry, affine geometry, non-Euclidean geometry. *Assistant Professor Gleason.*

MA 308 Linear Algebra II**3 crs.**

Prq.: MA 202.

Linear transformations and matrices, bilinear and quadratic forms, polynomial rings, characteristic values and vectors of linear transformations, similarity of matrices, applications. *Associate Professor D'Alarcao.*

MA 316 Differential Equations**3 crs.**

Prq.: MA 201.

Ordinary differential equations of first and second order, linear differential equations with constant coefficients, the Laplace transformation, applications. *Assistant Professor Scalisi.*

MA 322 College Algebra for Elementary Majors**3 crs.**

Prq.: MA 108.

Elementary logic, the real and complex number systems, algebra of polynomials and algebraic fractions, exponents and radicals, inequalities, functions and their graphs, polynomial functions. *Assistant Professor Quindley.*

MA 349 Foundations of Mathematics	3 crs.
Elements of set theory and logic, development of the basic number systems, Peano Postulates, development of the Natural Numbers, the Integers and Rational Numbers, Real Numbers, and Cauchy Sequences. <i>Associate Professor Makokian.</i>	
MA 401 Advanced Calculus I	3 crs.
Prq.: MA 201. Fundamental theorems on limits and continuity, properties of derivatives, functions of several variables, partial derivatives, multiple integrals. <i>Associate Professor Bent.</i>	
MA 402 Advanced Calculus II	2 crs.
Prq.: MA 401. Sequences, infinite series, power series and expansions of functions, vector calculus. Four periods weekly for one quarter. <i>Associate Professor Bent.</i>	
MA 403 Probability Theory	3 crs.
Prq.: MA 201. Permutations and combinations, calculus of probabilities, discrete and continuous random variables, expectation, elementary probability distributions, moment-generating functions, sample spaces. <i>Associate Professor Makokian.</i>	
MA 406 Theory of Sets and Elementary Logic	2 crs.
Truth tables, rules of inference, method of proof, the algebra of sets and graphs of functions, cardinal numbers. Four periods weekly for one quarter. <i>Assistant Professor Simpson.</i>	
MA 407 Topology	3 crs.
Prq.: MA 201. The elements of point set topology, closed sets and open sets in metric spaces, continuous mappings, connection, separation theorems and compactness. <i>Staff.</i>	
MA 408 History of Mathematics	3 crs.
The development of elementary mathematics from ancient to modern times. <i>Assistant Professor Scalisi.</i>	
MA 412 Mathematical Statistics	3 crs.
Prq.: MA 403. Fundamental statistical methods, tests of significance and estimation based on large or small samples, simple correlation, linear regression, statistical inference, sequential analysis. Not offered in 1972-1973.	
MA 415 Numerical Analysis	3 crs.
Prq.: MA 201. Solution of algebraic and transcendental equations, general iteration method, Newton-Raphson method. Approximation of functions and curve fitting, Lagrange interpolation formula, Newton's forward difference method, method of least squares, orthogonality. Numerical integration, Euler-Cauchy technique. <i>Associate Professor Abramson.</i>	
MA 418 Complex Function Theory	3 crs.
Prq.: MA 401. Analytic functions of a complex variable, differentiation and integration in the complex plane. Cauchy's theorems, infinite series. Laurent expansions, theory of residues. <i>Staff.</i>	

MA 421 Analytic Geometry for Elementary Majors **3 crs.**

Prq.: MA 108.

Trigonometric functions and analytic trigonometry, analytic geometry of the straight line and conic sections. *Mr. Moore.***MA 422 Probability and Statistics for Elementary Majors** **3 crs.**

Prq.: MA 108.

Permutations and combinations, finite sample spaces, random variables, binomial distributions, statistical applications. *Associate Professor Lemos.***MA 425 Calculus for Elementary Majors** **3 crs.**

Prq.: MA 108.

Graphs and curves, differentiation and integration of algebraic and transcendental functions, applications. *Associate Professor Mailloux.***DEPARTMENT OF MODERN FOREIGN LANGUAGES**Associate Professor Robert Arruda, *Chairman*

Associate Professors: Robert Briggs, Joseph Giannini, Wayne Judah.

Assistant Professors: Anthony Cotugno, Dale Dawley, Barbara George,

Lenore Padula, Christiana Reordan, Mary Shapiro, Servando Tijerina.

Instructor Armand Desautels, John Lucas.

The Modern Foreign Language Department offers to all A.B. students an opportunity to gain a practical working knowledge of one or more of six modern foreign languages by requiring them to take four semesters, or their equivalent, following their initial placement in the freshman year. Initial placement in, and successful completion of, the 181—182 level of foreign language study satisfies the graduation requirement in this area. Students may choose any of the six languages offered by the Department unless otherwise restricted by the requirements of their academic major. B.S. students are free to elect any language course as an elective or minor concentration provided they meet the basic requirements of the course in question.

The Department currently offers a major in French with academic minors possible in French, German, Spanish, Italian, Russian, and Portuguese. The Department majors seek to develop a fluent command of the four language skills, and a broad acquaintance with the salient characteristics of the literature and civilization of the language being studied.

A grade of C or above in the 181—182 course sequence is required for continuation as a language major. Normally, 30 semester hours are required for a foreign language major, following successful completion of the 181—182 course. Foreign language majors are required to take all courses in numerical sequence, unless otherwise arranged with the Department Chairman. Those who intend to enter secondary level teaching are required to take ED 324 (Teaching Language in the Secondary School). Language minors are required to take 18 semester hours beginning with the 151-152 level course. The choice and sequence of subsequent courses may be determined by consultation with the Chairman of the Department. For all prerequisites, equivalent course credit or preparation will be accepted.

French**LF 101, 102 Elementary French** *3 crs. for each semester.*An introduction to the essentials of written and spoken French. Four periods weekly. *Mr. Desautels and Staff.***LF 151, 152 Intermediate French** *3 crs. for each semester.*

Prq.: LF 102.

Stress on essential grammatical points, oral work, and reading knowledge of the language. *Mr. Desautels and Staff.***LF 181, 182 Advanced French** *3 crs. for each semester.*

Prq.: LF 152.

A concentration on more advanced aspects of the spoken and written French language. Oral practice through individual classroom participation. *Assistant Professor Dawley and Staff.***LF 201 French Literature of the Middle Ages** *3 crs.*

Prq.: LF 182.

A survey of representative works of the Middle Ages in modern French translation. *Assistant Professor Padula.***LF 252 Sixteenth Century French Literature** *3 crs.*

Prq.: LF 201.

A study of the poetry, prose, and theatre of the sixteenth century, noting the transition from the late Middle Ages through the Renaissance. *Assistant Professor Padula.***LF 281 French Conversation and Civilization** *3 crs.*

Prq.: LF 182.

Improvement of oral expression and pronunciation. French Civilization discussion topics for vocabulary building and application of structures learned. *Mr. Desautels.***LF 301 Seventeenth Century French Literature** *3 crs.*

Prq.: LF 252.

The principal historical events and representative authors and genres of France of the seventeenth century will be studied with the object of understanding Classicism as a literary movement. *Associate Professor Arruda.***LF 352 Eighteenth Century French Literature** *3 crs.*

Prq.: LF 301.

The literary contributions of the Enlightenment and Encyclopedists to the French Revolution and pre-Romanticism. *Associate Professor Arruda.***LF 381 Applied French Linguistics and Phonetics** *3 crs.*

Prq.: LF 182.

A linguistic approach to the sounds of the French language with emphasis on a mastery of the elements of correct standard pronunciation. Conducted in French. *Assistant Professor Dawley.***LF 382 Advanced French Composition and Grammar** *3 crs.*

(Formerly LF 481)

Prq.: LF 381.

A thorough study of French grammar to develop written and oral proficiency in the French language. *Assistant Professor Dawley.*

LF 401 Nineteenth Century French Literature**4.5 crs.**

Prq.: LF 352.

Through representative works, the entire nineteenth century will be surveyed with special emphasis on principal literary movements: Romanticism, Realism, and Symbolism. Three periods weekly for three quarters. *Associate Professor Judah.*

LF 451 Twentieth Century French Literature**4.5 crs.**

Prq.: LF 352.

A discussion of literary trends and reading of well-known authors. Individual reports. Barres, France, Gide, Proust, Claudel, Romains, Sartre, Camus. Three periods weekly for three quarters. *Associate Professor Giannini.*

German**LG 101, 102 Elementary German****3 crs. for each semester.**

An introduction to the study of the German language. Emphasis on correct pronunciation and basic grammar. Four periods weekly. *Assistant Professor Reordan and Staff.*

LG 151, 152 Intermediate German**3 crs. for each semester.**

Prq.: LG 102.

A systematic review of basic German grammar. Graded reading selections and an introduction to aspects of German culture. *Assistant Professor George and Staff.*

LG 181, 182 Advanced German**3 crs. for each semester.**

Prq.: LG 152.

Introduction to a more advanced level of the literature. Representative authors will be read and discussed. *Associate Professor Briggs.*

LG 191, 192 Scientific German**3 crs. for each semester.**

(Formerly LG 153, 154)

Prq.: LG 102.

An introduction to the reading and translating of scientific material. Open to science majors as a substitution for LG 151, 152. *Assistant Professor George.*

LG 201, 202 Survey of German Literature**3 crs. for each semester.**

Prq.: LG 182.

German literature from its earliest beginnings to the present day. Representative works of the principal literary periods will be read and discussed. *Associate Professor Briggs.* Not offered in 1972-1973.

LG 282 German Conversation and Civilization**3 crs.**

Prq.: LG 182.

Designed to develop further the student's command of spoken German. Discussion topics will center upon aspects of German civilization and culture. Not offered in 1972-1973.

LG 301, 302 Modern German Literature**3 crs. for each semester.**

Prq.: LG 202.

Ideas and literary currents of the modern period as expressed in the works of representative authors. Not offered in 1972-1973.

LG 351 German Romanticism **3 crs.**

Prq.: LG 202.

Romanticism as a literary movement. A study of its philosophical basis, themes and forms as reflected in representative works of the period. *Assistant Professor George.*

LG 382 Medieval German Literature **3 crs.**

Prq.: LG 202.

Reading and discussion of the principal works of the medieval period, with particular emphasis upon the Middle High German authors and their works. *Assistant Professor George.*

LG 401 The Age of Goethe and Schiller **4.5 crs.**

Prq.: LG 202.

The Storm and Stress Period and Classical Period of German literature with a focus upon Goethe and Schiller as the leading representatives of these movements. Three periods weekly for three quarters. *Associate Professor Briggs.*

LG 451 German Drama, Prose, and Poetry of the Nineteenth Century **4.5 crs.**

Prq.: LG 202.

Representative writers of the century will be read and discussed with emphasis upon the inter-relationships of Romanticism, Realism and Naturalism as literary movements in 19th century German literature. Three periods weekly for three quarters. Not offered in 1972-1973.

Italian**LT 101, 102 Elementary Italian** **3 crs. for each semester.**

An aural-oral approach to the grammar of the Italian language. Emphasis is on the mastery of correct pronunciation and of fundamental grammatical points to ensure a basic oral, reading, and written command of the language. Four periods weekly. *Assistant Professor Padula.*

LT 151, 152 Intermediate Italian **3 crs. for each semester.**

Prq.: LT 102.

A continuation of Elementary Italian, with stress on essential grammatical features, oral work, and reading and writing development in the language. *Assistant Professor Padula.*

LT 181, 182 Advanced Italian **3 crs. for each semester.**

Prq.: LT 152.

A review of basic grammar and presentation of more advanced structural elements. Stress on improvement of compositional and aural-oral skills. Varied cultural reading selections. *Assistant Professor Padula.*

Portuguese**LP 101, 102 Elementary Portuguese** **3 crs. for each semester.**

An introduction to the basic skills of reading and writing, and the development of aural comprehension and correct oral pronunciation. Four periods weekly. *Associate Professor Arruda.*

LP 151, 152 Intermediate Portuguese **3 crs. for each semester.**

Prq.: LP 102.

A review of basic grammar and pronunciation and a more advanced study of these two aspects of the language. Reading, writing, and oral proficiency will be stressed. *Associate Professor Arruda.*

LP 181, 182 Advanced Portuguese**3 crs. for each semester.**

Prq.: LP 152.

Stress on improvement of compositional and aural-oral skills. Literary texts from Brazilian and Portuguese literature. *Associate Professor Arruda.***Russian****LR 101, 102 Elementary Russian****3 crs. for each semester.**Simultaneous development of the four fundamental language skills. Classwork supplemented by laboratory drills. Four periods weekly. *Assistant Professor Reordan.***LR 151, 152 Intermediate Russian****3 crs. for each semester.**

Prq.: LR 102.

Consolidation of elementary Russian through review of basic elements, plus written and oral self-expression based on detailed readings of selected texts. *Assistant Professor Reordan.***LR 181, 182 Advanced Russian****3 crs. for each semester.**

Prq.: LR 152.

Progressive development of the student's language proficiency through reading of scientific and literary texts, oral practice, and written compositions. *Assistant Professor Reordan.***Spanish****LS 101, 102 Elementary Spanish****3 crs. for each semester.**An introduction to the essentials of Spanish pronunciation and grammar. Reading, writing, aural and oral proficiency will be stressed. Four periods weekly. *Mr. Lucas and Staff.***LS 151, 152 Intermediate Spanish****3 crs. for each semester.**

Prq.: LS 102.

A review of basic grammar and correct pronunciation to further an aural-oral command of the language. Hispanic readings will be introduced. *Mr. Lucas and Staff.***LS 181, 182 Advanced Spanish****3 crs. for each semester.**

Prq.: LS 152.

A more detailed study of Spanish grammar. Vocabulary development, correct pronunciation, and improved aural-oral skills. Readings from Hispanic world. *Assistant Professor Cotugno.***LS 201, 202 Survey of Spanish Literature****3 crs. for each semester.**

Prq.: LS 182.

Major literary movements, works and authors of peninsular Spanish literature from earliest times to the present. Offered in alternating years with LS 251, 252. Not offered in 1972-1973.

LS 251, 252 Survey of Spanish-American Literature**3 crs. for each semester.**Prq.: LS 182. A representative study of the literature of the Colonial period, the Independence period, the eighteenth century, Modernism, and the contemporary period. Offered in alternate years with LS 201, 202. *Assistant Professor Cotugno.*

LS 281 Advanced Composition**3 crs.**

Prq.: LS 182.

Development of individual written expression. Utilization of literary texts as an approach to composition by focusing on vocabulary, analysis of style and context. *Assistant Professor Tijerina.***LS 282 Spanish Phonetics and Conversation****3 crs.**

Prq.: LS 281.

Improvement of oral proficiency by a systematic study of the sounds of correct pronunciation. *Assistant Professor Tijerina.***LS 292 Spanish Civilization****3 crs.**

Prq.: LS 182.

An introduction to the history, geography, social institutions, and culture of Spain. Assigned compositions. Not offered in 1972-1973.

LS 301 The Golden Age of Spanish Literature**3 crs.**

Prq.: LS 202.

A study of the poetry, prose and theatre from the second half of the sixteenth century to the Baroque period. Emphasis will be on the mystics. Góngora, Lope de Vega, Calderón, and Quevedo. Not offered in 1972-1973.

LS 351 Cervantes**3 crs.**

Prq.: LS 202.

A study of the man and his works, with special emphasis on *Don Quixote*. *Assistant Professor Tijerina.***LS 381, 382 The Middle Ages****3 crs.**

Prq.: LS 202.

A study of the evolution of Spanish literature through the first half of the sixteenth Century. Romances, Poema del Cid, La Celestina, Lazarillo de Tormes, El Libro de Buen Amor. *Assistant Professor Tijerina.***LS 401 Nineteenth Century Spanish Literature****4.5 crs.**

Prq.: LS 202.

The Romantic and Realist Movements. Representative works of the novel, poetry, and drama. Caballero, Alarcón, Galdós, Clarín, Bazán, Ibáñez, Duque de Rivas, Gutiérrez, Espronceda, Larra. Three periods weekly for three quarters. Not offered in 1972-1973.

LS 451 Twentieth Century Spanish Literature**4.5 crs.**

PRQ.: LS 202.

The Spanish novel, essay, poetry and drama from the Generation of '98 to the present. Unamuno, Baroja, Azorín, Machado, Jiménez, Lorca, Casona, Cela. Three periods weekly for three quarters. Not offered in 1972-1973.

DEPARTMENT OF MUSICProfessor Kenneth Falkner, *Chairman*

Associate Professors: Dorothy Ferry, Vincent Gannon, Marjorie Hayward.

Assistant Professor Jacob Liberles.

Instructors: David Rinald, Henry Santos.

The Music Department offers a minor and a concentration in music for the liberal arts and elementary education majors, courses for the humanities elective requirement, private instruction in piano and voice, and performing organizations for the student who wishes to take a more active part in music.

Liberal arts majors who elect music as a minor are required to complete 18 semester hours in music which include 6 in applied voice or piano, MU 171, 172, 160 or 360, and one course from MU 363, 364, 365 or 366. Elementary Education majors who elect music as a concentration are required to complete the following 12 semester hours MU 140, 240, 251, and 255. Those who wish to minor in music should add MU 330 and 360 to the concentration requirements.

Students must notify and receive approval from the department chairman for acceptance into the music program. A grade of C or better is required in all music course work as well as membership in one performing organization.

***MU 111 College Band**

1 cr.

Prq.: Consent of the instructor.

Open to all interested and qualified students who wish to continue their experience in band music. Emphasis placed on contemporary works and music especially written for band. Concerts scheduled on campus and exchange concerts with other college bands. Three periods weekly. Not offered in 1972-1973.

***MU 113 Stage Band**

1 cr.

Prq.: Consent of the instructor.

A performing group limited to twenty students in a laboratory experience which stresses basic musicianship, analysis of form and style, ensemble playing, and improvisation. One three-hour period weekly. *Associate Professor Gannon.*

***MU 115 Instrumental Ensemble**

1 cr.

Prq.: Consent of the instructor.

A mixed group of instruments which performs music originally written for that particular combination of instruments. Ensembles formed as the occasion demands. One three-hour period weekly. *Staff.*

***MU 117 Women's Glee Club**

1 cr.

Open to all female students who like to sing. Performances are given during the year which include traditional and folk songs, arrangements from musical comedies and music that is currently popular. Three periods weekly. *Mr. Santos.*

***MU 118 Chorale**

1 cr.

Prq.: Consent of the instructor.

A selected group of mixed voices which performs works representative of many periods of music and presents concerts throughout the academic year, at times with other college groups on and off campus. Three periods weekly. *Mr. Rinaldi.*

* From the above one-credit co-curricular activities, MU 111, 113, 115, 117, 118 and 119, and from any and all co-curricular activities in which a student might wish to participate and for which the College grants or may decide to grant credit in the future, a student may accumulate not more than one (1) credit per semester, nor more than two (2) per year, nor more than six (6) per college career.

MU 119 Vocal Ensemble

1 cr.

Prq.: Consent of the instructor.

A mixed group of voices which is organized to perform a particular type of music. Ensemble formed as the occasion demands. Three periods weekly. *Staff.*

MU 131 Applied Voice*Credits arranged.*

Prq.: Consent of the instructor.

Private lessons in voice for the beginning student and those with a limited background in singing. Basic concepts in posture, breathing, diction and vocalises stressed. Solo material selected from vocal literature in English with an introduction to literature in a foreign language. One or two half-hour periods weekly. *Mr. Rinald.*

MU 140 Class Piano I

3 crs.

For beginning piano students who desire a fundamental approach to the keyboard. Required of elementary education majors who have elected music as a concentration or a minor. Includes correct use of the hands at the keyboard, playing of simple scales and chords, arpeggios and simple melodies; scale construction and use of I, IV and V chords. *Mr. Santos.*

MU 141 Applied Piano*Credits arranged.*

Private instruction for the beginning piano student and those with a limited background in piano. Material selected according to the ability of the student. May be repeated for credit. One or two half-hour periods weekly. *Mr. Santos.*

MU 150 Essentials of Music

3 crs.

Required of all Elementary and Physical Education majors but not those who have elected music as a concentration or minor. A non-technical approach to the use of music in the elementary school which serves to enhance the student's knowledge and ability to use music in the classroom. *Staff.*

MU 160 Music Literature

3 crs.

A non-technical humanities elective which explores music from the Baroque through contemporary periods with emphasis on how to listen to music intelligently. Selected works by the masters include symphonies, concertos, oratorios, operas, and smaller works which are used for study, listening and discussion. *Staff.*

MU 171, 172 Harmony I-II

3 crs. for each semester.

A beginning technical course in the study of 18th and 19th century theory of music for students who wish a foundation for further development of their musical awareness. Includes rudimentary fundamentals of music theory, harmonic structure of chords of the sixth through secondary dominants, and simple modulations. MU 171 is prerequisite to MU 172. *Professor Falkner.*

MU 240 Class Piano II

3 crs.

Prq.: MU 140 or consent of the instructor.

A continuation of MU 140 with advanced keyboard work and more difficult melodies and rhythmic patterns. Use of II, III and VI chords, simple modulations, and keyboard harmony. *Mr. Santos.*

*From the above one-credit co-curricular activities, MU 111, 113, 115, 117, 118 and 119, and from any and all co-curricular activities in which a student might wish to participate and for which the College grants or may decide to grant credit in the future, a student may accumulate not more than one (1) credit per semester, nor more than two (2) per year, nor more than six (6) per college career.

MU 251 Choral Techniques	3 crs.
Prq.: MU 240 or consent of the instructor.	
A required course for Elementary Education majors who have elected music as a concentration or minor and open to other students with permission of instructor. Investigation and study of problems in choral singing, the voice, rehearsal and conducting technique, elementary and advanced choral literature. Melodic, rhythmic, polyphonic dictation is included. <i>Mr. Rinald.</i>	
MU 255 Music Materials for Elementary Teachers	3 crs.
MU 240 or consent of the instructor.	
For those who wish to become more actively involved with music in the classroom. Includes singing, use of instruments, listening, reading music, and rhythmic activity. <i>Associate Professor Ferry.</i>	
MU 330 Voice Class	3 crs.
Prq.: MU 251 or consent of the instructor.	
Correct posture, breathing and control are studied as well as ways of correcting individual voice problems, repertoire, solfeggio, and advanced dictation. <i>Mr. Rinald.</i>	
MU 331 Applied Voice	3 crs.
Private lessons in voice for those who have satisfied the requirements of MU 131. A continuation of vocalises, breath and tone control, solo material selected from the literature of German, French, and Italian composers as well as contemporary works in English. <i>Mr. Rinald.</i>	
MU 341 Applied Piano	<i>Credits arranged.</i>
Prq.: MU 141 and consent of the instructor.	
For the advanced student of piano who wishes to improve his ability at the keyboard. Material selected according to the ability of the student. One or two half-hour periods weekly. <i>Mr. Santos.</i>	
MU 355 Creative Activities in Elementary School Music	3 crs.
Prq.: MU 240, MU 255, or consent of the instructor.	
Practical experience offered in free and directed rhythmic responses, use of melody, percussion and chording instruments, use of the piano, and singing activities. <i>Associate Professor Ferry.</i>	
MU 360 Music Literature II	3 crs.
Prq.: MU 172 or consent of the instructor.	
An advanced course in the development of music with a study of style, form and structure through analysis, listening, and discussion. Not offered in 1972-1973.	
MU 363 Music of the Renaissance and Baroque Periods	3 crs.
Prq.: MU 160 or consent of the instructor.	
A study of vocal and instrumental, sacred and secular music through readings, lectures and discussion of selected compositions representative of these two periods. Not offered in 1972-1973.	
MU 364 Music of the Classical and Romantic Periods	3 crs.
Prq.: MU 160 or consent of the instructor.	
A study of vocal and instrumental music of these two periods through readings, lecture, listening and discussion. Not offered in 1972-1973.	
MU 365 Music of the Contemporary Period	3 crs.
Prq.: MU 160 or consent of the instructor.	
A study of present day music and its relationship to the past; includes experimental and electronic developments; readings, lecture, listening and discussion. <i>Professor Falkner.</i>	

MU 366 Music of the Opera**3 crs.**

Prq.: MU 160 or consent of the instructor.

A listener's approach to opera with representative examples from Peri to present day composers. Works by composers from Germany, France and Italy will be studied along with contributions from England and America. *Professor Falkner.*

MU 370 Music Skills**3 crs.**

For the elementary teacher or undergraduate student who wishes a knowledge of the basic fundamentals of music to use as a basis for further study. Includes scales, chords, singing, playing simple instruments, and rudimentary harmonic progressions. *Staff.*

DEPARTMENT OF PHILOSOPHYAssistant Professor David Cheney, *Chairman*

Associate Professors: Joseph Corkery, Achille Joyal.

Assistant Professor Steven Sanders.

PL 200 Scepticism, Knowledge, and Reality**3 crs.**

An introduction to philosophy through an examination of the relationship between the knower and the known, including topics of perception, doubt, belief, the external world and religious knowledge. *Associate Professor Corkery.*

PL 210 Human Conduct and Values**3 crs.**

An introduction to philosophy through an examination of representative systems of value and moral propriety, including topics of freedom, the nature of moral obligation and moral judgments, and the concepts of good, right, value, and moral worth. *Associate Professor Joyal and Assistant Professor Sanders.*

PL 220 Philosophy of Mind and Action**3 crs.**

An introduction to philosophy through an examination of various conceptions of man, including topics of mind, persons, action, intention, and will. *Associate Professor Corkery.*

PL 230 Social and Political Man**3 crs.**

An introduction to philosophy through an examination of man as a social being, including topics of political obligation, justice, communication, law, social contract, liberty, sovereignty, and civil disobedience. *Assistant Professor Cheney.*

PL 310 Logic**3 crs.**

An introduction to formal logic and analysis; study of propositions and syllogisms; introduction to symbolic logic; selected problems in the philosophy of logic and language. *To be announced.*

PL 381 Ancient and Medieval Philosophy**3 crs.**

A study of the major philosophers of these periods, including the Pre-Socratics, Socrates, Plato, Aristotle, Augustine, Anselm, and Aquinas. *Associate Professor Joyal.*

PL 382 Rationalism, Empiricism and Kant**3 crs.**

A study of the Rationalists, including Descartes, Spinoza, and Leibniz, and the Empiricists, including Hobbes, Locke, Berkeley, and Hume, especially in regard to the nature of ideas, the use of reason, and the scope and limits of knowledge; concluding in an examination of Kant's attempt to resolve the conflicts between these two movements. *Assistant Professor Sanders.*

PL 385 Nineteenth Century Philosophy 3 crs.

A study of the main movements of this period, including Idealism, Positivism, Dialectical Materialism and the early existentialist revolt, with special emphasis on the works of Hegel, Schopenhauer, Royce, Mill, Marx, Kierkegaard, and Nietzsche. *Assistant Professor Cheney.*

PL 386 Contemporary Philosophy 3 crs.

A study of the main movements of this period, including Pragmatism, Analytic Philosophy, and Existential Phenomenology, with special emphasis on the work of Whitehead, Dewey, James, Wittgenstein, Russell, Moore, Sartre, Husserl, and Heidegger. *Assistant Professor Sanders.*

PL 401 Philosophy of Natural Science 3 crs.

Inquiry into the conceptual foundations of natural science, including topics of induction, causation and determinism, natural law, theoretical explanation, and concept formation. *Instructor to be announced.*

PL 403 Philosophy and the Arts 3 crs.

Inquiry into recurrent philosophical themes in literature and the fine arts, accompanied by an introduction to the fundamental problems of esthetics. *Instructor to be announced.*

PL 410 Existentialism 3 crs.

A critical study of the concepts of human existence, anxiety, freedom, decision; introduction to phenomenology; readings from Kierkegaard, Heidegger, Jaspers, Sartre, Camus. *Assistant Professor Cheney.*

PL 450 Philosophy Seminar 3 crs.

Study of a particular philosopher and/or selected philosophical problems. Topics vary; course may be repeated. Limited enrollment, admission only by consent of instructor. *Staff.*

DEPARTMENT OF PHYSICS

Professor Richard Calusdian, *Chairman*

Professors: Felix Palubinskas, George Weygand.

Associate Professors: Raymond Blanchard, Erwin Harris.

The Physics Department offers a program leading to the degree of Bachelor of Arts in Physics. This program prepares the student for graduate school, for a career in industry or government, or for the teaching of physics in high school. If a student minors in education he will meet the Massachusetts State Certification requirements for teaching physics. One three-credit mathematics course as an elective will allow the student to meet the Massachusetts State Certification requirements for teaching Mathematics.

The following physics courses are required for a major in Physics: PH 243, 244, 385, 387, 388, 389, 403 or their equivalents.

The following courses outside the department are also required for a major in Physics: CH 141, 142; MA 101, 102, 201, 316 or their equivalents.

A student may minor in physics by successfully completing 18 semester hours credit of physics acceptable for the major.

PH 181 Elements of Physics I**3 crs.**

Principles of mechanics, heat and sound. Two lecture periods and one two-hour laboratory period weekly. *Professor Weygand.*

PH 182 Elements of Physics II**3 crs.**

Prq.: PH 181.

Principles of electricity, magnetism, optics and modern physics. Two lecture periods and one two-hour laboratory weekly. *Professor Weygand.*

PH 200 Survey of Physics**3 crs.**

Elements of mechanics, heat, electricity, magnetism, optics and modern physics. Two lecture periods and one two-hour laboratory weekly. *Professor Weygand.*

PH 243 General Physics I**4 crs.**

Prq.: MA 102.

Calculus based study of mechanics and heat. Three lecture periods and one three-hour laboratory weekly. *Associate Professor Blanchard.*

PH 244 General Physics II**4 crs.**

Prq.: PH 243.

Calculus based study of electricity, magnetism, and light. Three lecture periods and one three-hour laboratory weekly. *Associate Professor Blanchard.*

PH 371 Biophysics, Macroscopic Aspects**3 or 4 crs.**

Prq.: Consent of the instructor.

The structure, function, and control of the skeletal, muscular, nervous, blood-vascular and other body systems of the human being on the macroscopic or large-system level. Three lecture periods, one three-hour laboratory period weekly. This course may be taken without laboratory work. *Professor Palubinskas.*

PH 372 Biophysics, Microscopic Aspects**3 crs.**

Prq.: Consent of the instructor.

The structure, function, and control of the human body on the microscopic or molecular level. May be taken independently of PH 371. *Professor Palubinskas.*

PH 381 Thermal Physics**3 crs.**

Prq.: PH 243, PH 244.

Thermodynamics; kinetic theory; and statistical mechanics. *Professor Palubinskas.*

PH 385 Optics**3 crs.**

Prq.: PH 244.

Study of geometrical and physical optics. Three lecture periods weekly. *Professor Harris.*

PH 387 Modern Physics**3 crs.**

Prq.: PH 243, PH 244.

Theory of relativity; atomic structure; quantum theory; nuclear physics and elementary particles. *Professor Calusdian.*

PH 388 Electricity and Magnetism**4 crs.**

Prq.: PH 244.

The theory and applications of the fundamental equations of electromagnetism. Three lecture periods and one three-hour laboratory weekly. *Professor Palubinskas.*

PH 393 Special Topics in Modern Physics**3 crs.**

Prq.: PH 387

Topics to be chosen from among the areas of the theory of relativity, quantum mechanics, solid state and nuclear physics. *Professor Calusdian.***PH 389 Mechanics****3 crs.**

Prq.: PH 243.

Vector treatment of forces, torques; dynamics of particles and rigid bodies; work and energy; momentum; small oscillation theory; Lagrangian and Hamiltonian formulation of dynamics. *Associate Professor Blanchard.***PH 390 Research Problems in Physics****Credits arranged.**Special projects for advanced students desiring individual instruction in the methods of physics research. Hours arranged. *Professor Calusdian and Staff.***PH 391 Solid State Physics****3 crs.**

Prq.: PH 387.

Crystal structure; electric, magnetic and thermal properties of matter; transport properties; band theory; super conductivity. *Professor Calusdian.***PH 392 Electronics****4 crs.**

Prq.: PH 244.

Study of electron tubes, semiconductors, and electronic circuits. Three lecture periods and one three-hour laboratory period weekly. *Professor Palubinskas.***PH 393 Special Topics in Modern Physics****3 crs.**

Prq.: PH 387

Topics to be chosen from among the areas of the theory of relativity, Quantum mechanics, Solid State and Nuclear Physics. *Professor Calusdian.***PH 395 History of Science****3 crs.**The development of scientific thought and scientific method from the Ionian Greeks to the contemporary era. *Professor Weygand.***PH 398 Directed Study in Theoretical Physics****Credits arranged.**The student may choose from among the following topics: theory of relativity; quantum theory; electromagnetic theory; statistical mechanics; classical mechanics and mathematical physics. Hours arranged. *Professor Calusdian and Staff.***PH 399 Directed Study in Experimental Physics****Credits arranged.**Introduction to advanced experimental techniques of physics. *Associate Professor Harris and Staff.***PH 402 Quantum Mechanics****3 crs.**

Prq.: PH 403.

Wave nature of matter; the Schrodinger equation; application of the Schrodinger equation to the electron, the hydrogen atom, multi-electron atoms and radiation. *Professor Calusdian.***PH 403 Mathematical Physics****3 crs.**

Prq.: PH 243, PH 244, MA 103.

Vector analysis; matrices; linear differential equations; Sturm-Liouville theory; Fourier series; orthogonal functions; Laplace transform. *Professor Calusdian.*

PH 405 Nuclear Physics**3 crs.**

Prq.: PH 387.

Nuclear forces, nuclear models, nuclear reactions and radioactivity, and elementary particles. *Associate Professor Harris.***DEPARTMENT OF POLITICAL SCIENCE**Professor Robert N. Larson, *Chairman*

Assistant Professors: Guy Clifford, Richard Yin.

PO 271 Western Political Thought—Plato to the Present**3 crs.**Development of political ideas from ancient times to the modern era. *Assistant Professor Clifford.***PO 272 American Government: the Federal System****3 crs.**The constitutional authority, organization, activities, and political processes of the national government. *Assistant Professor Clifford.***PO 273 U. S. and Massachusetts Constitutions****1 cr.**Structure of government and rights and responsibilities according to Federal and Commonwealth constitutions. *Professor Larson.***PO 371 Comparative Government****3 crs.**Political behavior and governmental systems in Great Britain, France, West Germany and the Soviet Union. *Assistant Professor Yin.***PO 372 Legislative Process and Procedure****3 crs.**The role of legislatures in modern American government, federal and state; the relationship of the voter and of apportionment to lawmaking; the two-party system and its impact on the lawmaking process; the committee system and seniority, and constitutional limitations on legislatures. *Professor Larson.***PO 374 Political Thought: Modern and Contemporary****3 crs.**The ideas of major political thinkers in the era of the modern nation-state. *Assistant Professor Clifford.***PO 375 Political Parties****3 crs.**The historical development of the American party system, and contemporary aspects of its functioning, at the national, state, and local level. *Assistant Professor Clifford.***PO 377 American Government: State and Local Government****3 crs.**Government and politics with emphasis on Massachusetts affairs. *Assistant Professor Clifford.***PO 379 Introduction to Public Administration****3 crs.**The relationship of the administrative branch of government to other branches in the making and implementation of public policy; theories of government organization for efficient administration; problems of budgeting, personnel, merit systems, types of agency organization, popular control over the bureaucracy. *Professor Larson.***PO 471 International Relations****4.5 crs.**The patterns of inter-state relations, the development of international law, international organizations, and the factors motivating the behavior of nations. Three periods weekly for one and one-half semesters. *Professor Larson.*

DEPARTMENT OF PSYCHOLOGY

Professor James Lester, *Chairman*

Associate Professors: Herbert Greenwald, Elizabeth Hollis, James Scroggs,
Louis Schippers.

Assistant Professor Drake Chisholm

Instructor Chester Lupton.

Required for a major in Psychology: 30 semester hours in Psychology, to include PY 200, 229, 230, and 231.

Other required courses: MA 110; BI 101, 102.

PY 200 General Psychology

3 crs.

Basic psychological processes such as perceiving, learning, thinking, emotion, and motivation, as well as more complex areas such as personality, adjustment, and social influences on behavior; major conclusions and basic methods of study in the field. *Professor Lester and Staff.*

PY 222 Psychology of Learning

3 crs.

Prq.: PY 200.

An examination of the theoretical and research aspects of the learning process. Theories of learning will be examined in relation to experimental design and the learning situation. *Associate Professor Schippers.*

PY 224 Child Growth and Development

3 crs.

Prq.: PY 200.

Growth and development of the child from birth to pre-adolescence. Biological, psychological, and social factors as well as moral forces which influence child behavior. *Associate Professor Hollis.*

PY 226 Adolescent Psychology

3 crs.

Prq.: PY 200.

The major theories related to pre-adolescent and adolescent development. Physical, mental, moral, emotional, personality, and social aspects will be considered. *Associate Professor Schippers.*

PY 228 Psychology of Mental Retardation

3 crs.

Prq.: PY 200.

Origins (genetic; organic; sensory, maternal, and cultural deprivation), manifestations, diagnostic aids, therapeutic and remedial techniques. *Associate Professor Scroggs.*

PY 229 Abnormal Psychology

3 crs.

Prq.: PY 200 and 231.

A systematic study of behavior pathology. Symptom patterns, etiology, prognosis, and prevention. Understanding and care of mental illness. *Associate Professor Scroggs and Staff.*

PY 230 Social Psychology

3 crs.

Prq.: PY 200.

The individual in social situations: attitude formation and change, culture and society, language and communication, leadership and group dynamics, personality characteristics and interpersonal relationships, small group behavior. *Associate Professor Greenwald and Staff.*

PY 231 Psychology of Personality**3 crs.**

Prq.: PY 200.

Basic concepts in the field of personality, organized around such topics as motivation, personality structure and dynamics, personality development, assessment, and therapy. Problems and styles of adjustment will be considered. *Associate Professor Scroggs and Staff.*

PY 302 Psychological Theory**3 crs.**

Prq.: At least four courses in psychology.

Fundamental assumptions underlying the psychological enterprise, and issues which are the subjects of continuing debate in the field—e.g., causality, determinism, methodological approaches, the control of behavior, conceptions of the nature of man. *Associate Professor Scroggs.*

PY 304 Attitude and Personality Measurement**3 crs.**

Prq.: PY 231, or PY 302, and MA 110.

Principles of construction of attitude scales and personality assessment techniques, including both projective and inventory-type techniques. Issues and controversies in psychological measurement. *Associate Professor Greenwald.*

PY 306 Experimental Psychology**3 crs.**

Prq.: PY 200.

The shaping of behavior, laboratory conditioning, reinforcement, approach and avoidance of a goal, discrimination and generalization of physical cues, animal learning experiments. Experimental approaches to the study of human behavior.

PY 308 Experimental Social Psychology**3 crs.**

Prq.: PY 230 and MA 110.

Recent research including developments in methodology, theory, and research findings. Situational and individual differences approaches useful in testing theories and hypotheses and in resolving conflicting findings of previous research. Research project required of the student. *Associate Professor Greenwald.*

PY 310 Clinical Psychology**3 crs.**

Prq.: PY 229 and PY 231.

Survey of diagnostic and treatment procedures and resources in clinical work with children and adults; professional skills and responsibilities of the clinical psychologist. *Professor Lester.*

PY 312 Attitude Change Research**3 crs.**

Prq.: PY 230 and MA 110.

Empirical research in persuasion; communicator credibility, opinion difference, commitment, one-sided (pro) and two-sided (pro and con) arguments, coercion, threat, emotional and rational arguments. Theories of attitude change, including dissonance theory, balance theory, congruity theory, and assimilation and contrast theory. *Associate Professor Greenwald.*

PY 322 Applied Social Psychology**3 crs.**

Effective communication and better understanding of oneself; listening, persuasion, conflict resolution, goals, expectations, and self-confidence. Contemporary problems such as dissent, minority problems. Guest speaker when possible. *Associate Professor Greenwald.*

PY 326 Seminar: Research Methods in the Behavioral Sciences 3 crs.

Prq.: MA 110 and at least four courses in Psychology.

The strategies of scientific research (hypothesis formation, experimental design, statistical analysis, data interpretation) and the tactics of obtaining reliable information and minimizing artifact (survey methods, various kinds of interviews, individual difference measures, controlled laboratory conditions). Offered only to majors in Psychology or another Behavioral Science. *Associate Professor Greenwald.*

PY 400 Research Practicum 3 crs.

Prq.: PY 326.

Individual or group research project. Primarily for senior majors in Psychology; others by special arrangement. *Staff.*

PY 402 Directed Studies 3 crs.

Supervised individual project (reading, discussion, and report) for students who have completed the major portion of their degree requirements. Primarily for senior majors in Psychology. *Staff.*

DEPARTMENT OF SECONDARY EDUCATION

Professor Stanley Clement, *Acting Chairman.*

Professor Frederick Meier.

Associate Professor Paul Kelley.

Assistant Professor Burton Goldman.

The Department of Secondary Education strives to provide students with the professional competencies necessary to become effective secondary teachers, including a knowledge of the principles upon which American secondary schools are founded and an ability to use appropriate teaching procedures, materials, and evaluation techniques.

Students preparing to teach in grades 7 through 12 pursue a program leading to the degree of Bachelor of Arts with a minor in Secondary Education. Required courses in the minor, and years usually taken: Sophomore—ED 210 3 sh, ED 211 3 sh; Junior—ED 312-326 6 sh; Senior—ED 490 6 sh. Successful completion of this sequence enables the student to receive a Secondary Teaching Certificate upon graduation. To qualify for certification, each student must be approved by the Committee on Admissions and Retention in Teacher Education. Appropriate and desirable experiences are encountered in public schools, where the student is involved in investigating, assisting, tutoring, observing and student teaching.

Through the Teacher Preparation Office, the Department of Secondary Education works closely with all college departments providing secondary majors, and with area school systems that participate in the Teacher Preparation program.

ED 210 Principles of Secondary Education 3 crs.

The influence of the school and of society upon each other and upon the student are studied. New educational developments are related to the school and its problems. The students actively study school problems in their setting by completing relevant environmental experiences on location. Problems common to most schools are studied. These include: goals and objectives, history and philosophy, organization, administration, curriculum, law, management, individual differences, discipline, guid-

ance, and evaluation. Students are asked to gain meaningful experiences through observing, assisting, or tutoring activities within the secondary school environment. *Associate Professor Kelley and Assistant Professor Goldman.*

ED 312-326 Methods and Materials in Secondary Education**6 crs.**

Prq.: PY 200.

In a team teaching situation, students study the methods and materials involved in teaching and functioning as a member of a secondary school faculty. More specifically, they will study materials and methods appropriate for their own discipline, relevant philosophical concepts, testing and measurements, instructional media, illustrations, effective speech, and unit organization for teaching. Other topics of study may be developed according to students' individual needs. Students will be expected to investigate, assist, tutor and observe in community schools. Faculty of the Departments of Philosophy, Education, Instructional Media, Art, Speech, and the various academic departments will form a cooperating team to conduct the course.

Professional Education Team Members

Assistant Professor Fitzgibbons

Educational Services Department

Assistant Professor McGuirk

Educational Services Department

, Assistant Professor Lee

Instructional Media Department

Course Designation and Academic Department Team Members

ED 312 Social Studies

Associate Professor Spence

ED 314 English

Assistant Professor Wood

ED 316 Earth Science

Associate Professor Boutilier

ED 317 Geography

Assistant Professor Stewart

ED 319 Physical Science

Professor Weygand

ED 320 Biology

Professor Cirino

ED 322 Mathematics

Associate Professor Lemos

ED 324 French

Assistant Professor Shapiro

ED 326 Speech

Associate Professor Pitts

ED 443 Secondary School Curriculum**3 crs.**

Purposes of the modern secondary school and the curriculum needed to implement them: historical origins, modern development, and future possibilities. Stress is laid on the manner in which the curriculum is built, behavioral objectives, visits to resource centers, assisting in curriculum construction, and methods of curriculum evaluation. Not offered in 1972-1973.

ED 490 Supervised Teaching in the Public Schools**6 crs.**

Students are assigned to appropriate student teaching stations where they work in an approved situation under an experienced supervising teacher. This is a practical experience for one quarter in a public school where student teachers are functioning as professional teachers. A college supervisor visits to assist the student teacher. Seminars may be held to exchange experiences. Students are expected to carry a minimum responsible teaching load equal to 50% of the regular classroom teacher's assignment. Full time for one quarter. *Associate Professor Baker and Staff.*

DEPARTMENT OF SOCIOLOGY

Professor Morgan Brown, *Chairman*

Associate Professor Clay Greene.

Assistant Professor Abraham Thomas.

Instructor Jaime Calderon.

Required for a Major in Sociology: SO 202, 303, 306, 400, and 402, plus six to eight other courses in Sociology. Additional required course: MA 110.

SO 202 Introduction to Sociology**3 crs.**

Social structure, basic human institutions, analysis of social processes, major social forces. *Professor Brown and Staff.*

SO 204 Sociology of Religion**3 crs.**

Comparative study of religious systems and institutions, function and role of religion and the church in society; professional status, history and relations of the clergy. *Assistant Professor Thomas.*

SO 303 The Family**3 crs.**

Prq.: SO 202, or AN 201, or AN 202.

The family as a social institution in terms of its historical and cultural development. Analysis of psychological and social factors in contemporary family life. *Professor Brown, Associate Professor Greene.*

SO 304 Social Stratification**3 crs.**

Prq.: Same as SO 303.

Historical and contemporary examples of the range of stratification systems. Problems of class and caste conflicts. Trends in class system and social mobility, with special attention given to similarities and differences of modern industrial societies. *Associate Professor Greene, Assistant Professor Thomas.*

SO 305 Sociology of Education**3 crs.**

Educative factors in the social process. Some attention will be given to preliterate cultures and the functioning of the dominant institutions. Major emphasis on the relation of stratification to education, and of education to horizontal and vertical mobility. Social class and ethnic backgrounds will be examined for their relationship to the functioning of schools. Recent, well-known empirical findings will be discussed. *Professor Brown.*

SO 306 Urban Sociology**3 crs.**

Prq.: SO 202, or ES 353, or AN 201, or AN 202.

A sociological and ecological analysis of the city in terms of urban institutional and personality patterns, folkways and mores. Ecological processes and structures. The city as center of dominance over a trade area and hinterland. *Professor Brown, Associate Professor Greene.*

SO 307 Urban Problems**3 crs.**

Prq.: Same as SO 306.

Poverty, intergroup conflict, breakdown in education, crime, delinquency and urban riots will be examined. Special emphasis will be on new approaches in education in the city—decentralization, community control, relevant curriculum. For students preparing for urban teaching. Experience in a problem area will be an integral part of the course. *Associate Professor Greene.*

SO 309 Introduction to Social Welfare**3 crs.**

Institutional analysis of social welfare, social agencies. Sociological aspects of social work as a profession. *Associate Professor Greene.*

SO 310 Indian Cultures and Social Organization**3 crs.**

Prq.: Same as SO 303.

A descriptive and analytical examination of societies of the Indian subcontinent dealing with their cultural histories, economic, social, political and religious institutions. Problems of cultural and social change. *Assistant Professor Thomas.*

SO 312 Urban Minority Relations**3 crs.**

Prq.: Same as SO 306.

A study of the relations between ethnic and racial groups in the United States, with particular attention to the Boston Irish, the Boston Italians, and the Negro-Americans. Concentrations will be upon the Negro in America and the problems of identity. *Professor Brown.*

SO 314 Case Work Methods**3 crs.**

Prq.: SO 307.

Case work is based on recognition of internal psychological problems and external social causes of an individual failure to function satisfactorily. Techniques of interviewing. Theoretical study of human behavior. Experience in social work agencies. *Associate Professor Greene.*

SO 316 Social Problems I: Non-Conforming Behavior**3 crs.**

Prq.: SO 202.

Contemporary social problems which are reflected in the behavior of individuals, but whose origins and causes lie outside of individuals. Topics treated will include drugs, dope-addiction, crime, juvenile delinquency, divorce and other family problems, mental illness and other health problems, social class, and selected social issues. *Professor Brown and Staff.*

SO 318 Social Problems II: Structural Discontinuities and Value Conflicts**3 crs.**

Prq.: SO 202, SO 316, or consent of the instructor.

A continuation of Social Problems I. Unemployment, mass poverty, problems of mass communication, world population growth, war, and other major problems involving total societal organizations. Problems will be treated from the standpoint of social change, resulting disorganization, and value conflict. *Professor Brown and Staff.*

SO 320 The Sociology of Underdevelopment**3 crs.**

Prq.: SO 202, or AN 201.

The study of the "Third World," its kinship, economic, religious, political and international roots, present functions and possible future consequences. *Assistant Professor Thomas.***SO 322 Field Experience Internship in Urban Living****6 crs.**

Prq.: SO 202 or AN 201, or AN 202.

A supervised field experience internship in urban living. Open to students enrolled in the Divisions of Behavioral Sciences or Education. Work with low-income families and with social agencies and institutions serving the disadvantaged in Boston, Brockton, Fall River, and New Bedford, Massachusetts. Class meetings with the instructor for five hours one day each week. Summer, 1972. *Professor Brown and staff.***SO 328 Criminology****3 crs.**

Prq.: SO 202 or its equivalent.

This course will be concerned with theories of crime causation, and perspectives on administration, treatment, prevention, and prediction. Consideration will be given to the influence of social class and other factors in criminal behavior. 3 hours weekly.

SO 400 Seminar: Social Theory**3 crs.**The history of social theory and selected topics in modern social theories, analysis of alternative conceptual approaches and their methodological requirements. For majors in Sociology or Behavioral Sciences. *Professor Brown and Staff.***SO 402 Seminar: Research Methods in Sociology****3 crs.**Application of scientific methods to the analysis of social phenomena, methodological orientation in sociology, types of research procedure, nature of sociological variables. For majors in Sociology or Behavioral Sciences. *Professor Brown, Associate Professor Greene.***DEPARTMENT OF SPEECH AND THEATRE**Associate Professor Robert Barnett, *Chairman*

Associate Professors: Karin DuBin, Willis Pitts, Richard Warye.

Assistant Professors: Lee Dunne, Robert Friedman, Stephen Levine.

Instructors: Susan Miskelly, Joanne Wuschke.

There are three separate and distinct programs available to those students who choose to major in the Speech and Theatre Department. 1) Speech. A course of studies designed to make students aware of oral communication as it occurs in public speaking, small group discussions, interpersonal relationships, and formal debate. 2) Speech Communication Disorders. A series of courses which acquaint the students with the areas of speech and hearing science and offers pre-professional training in speech pathology and audiology. 3) Theatre. A program designed to familiarize students with those subjects related to performance in the theatre and to develop an appreciation for live drama.

Each student must complete not less than 24 and no more than 36 semester hours in his field of concentration. All who choose to major in Speech and Theatre take the following departmental *basic* requirements: ST 200, 310, 370, 410 and 495. In addition, there are courses which are required within the chosen areas of concentration. In Speech: ST 350,

351, 360, and 460; in Speech Communication Disorders: ST 291, 490, 491, and 499; in Theatre: ST 380, 390, 395 and 430.

Eighteen credits are required within the department for a minor in Speech and Theatre. ST 200, 370, and 410 form the basis of the minor and the additional nine credits must be taken in one area of interest.

Students may receive credits in the Speech and Theatre Department for active participation in Debate, Verse Choir and Theatre. A total of no more than six s.h. credits may be earned over a four-year period (no more than one credit per semester may be awarded.)

The Speech and Theatre Department faculty administers an oral speech test to all in-coming freshmen. This test determines which students will enter the speech improvement program. In addition, the College has established minimum voice, articulation, and fluency standards that must be met before a student is allowed to do student teaching. (See ST 001.)

ST 001 Speech Improvement

Clinical therapy for students failing to meet minimal speech qualifications for teacher training. No credit. Hours arranged. *Associate Professor Pitts, Assistant Professor Dunne, Mrs. Wuschke.*

***ST 110 Debate Practicum**

1 cr.

Credit is given for sixty (60) or more hours of participation in inter-collegiate debate.

***ST 120 Choral Speaking Practicum**

1 cr.

Credit is given for sixty (60) or more hours of participation in Verse Choir.

***ST 130 Theatre Practicum**

1 cr.

Credit is given for sixty (60) or more hours of participation in Theatre.

ST 200 Oral Communication

3 crs.

Examination of the practical and theoretical aspects of listening, conversation, discussion, interviewing and public speaking. *Associate Professor Barnett and Staff.*

ST 220 Communicative Reasoning

3 crs.

Basic theories of rhetorical logic from Aristotle to Blair, Campbell, Whately, through I. A. Richards. *Miss Miskelly.*

ST 290 Speech Improvement in the Classroom

3 crs.

Voice and hearing mechanism. Voice sounds. Problems and needs of speech-handicapped children. *Associate Professor Pitts.*

ST 291 Phonetics

3 crs.

Speech sound production. The international Phonetic Alphabet and American English. *Associate Professor Pitts.*

*From the above one-credit co-curricular activities, ST 110, 120 and 130, and from any and all co-curricular activities in which a student might wish to participate and from which the College grants, or may decide to grant credit in the future, a student may accumulate not more than one (1) credit per semester, nor more than two (2) per year, nor more than six (6) per college career.

ST 310 Oral Interpretation	<i>3 crs.</i>
Oral reading of selected prose, poetry and drama: Individual and group forms. Theory and practice. <i>Associate Professor DuBin.</i>	
ST 326 Methods of Speech Instruction	<i>3 crs.</i>
Basic problems, objectives and organizational techniques necessary for the effective teacher of speech and theatre. <i>Associate Professor Barnett.</i>	
ST 330 Creative Dramatics	<i>3 crs.</i>
Development of the child's creative faculties through the use of dramatic play in laboratory sessions as well as classroom activity. <i>Assistant Professor Dunne.</i>	
ST 350 Public Speaking	<i>3 crs.</i>
Intensive study, evaluation and analysis of speech preparation with frequent presentations of various speech types. <i>Miss Miskelly.</i>	
ST 351 Persuasion	<i>3 crs.</i>
Prq.: ST 200. Study of the theory of persuasive speaking with frequent practice. <i>Miss Miskelly.</i>	
ST 360 Group Discussion	<i>3 crs.</i>
Prq.: ST 200. Principles of interpersonal communication with stress on participation, leadership, and reasoning. <i>Miss Miskelly.</i>	
ST 361 Parliamentary Procedure	<i>3 crs.</i>
Principles and practice. Relationship to the conduct of business in clubs, governments and other organizations. <i>Associate Professor DuBin.</i>	
ST 370 Play Production I	<i>3 crs.</i>
Reading, selection, analysis, and preparation of scripts for presentation. Theory and practice. <i>Associate Professor Barnett.</i>	
ST 380 Stagecraft	<i>3 crs.</i>
Prq.: ST 370. Theory and practice of technical theatre production with emphasis on principles of set design, construction, and lighting. Costuming, properties, make-up, and sound. <i>Associate Professor Wanye.</i>	
ST 385 Stage Lighting	<i>3 crs.</i>
Materials and techniques fundamental to historical and contemporary stage lighting; analysis of the principles of design as they relate to contemporary theatre execution. <i>Assistant Professor Levine.</i>	
ST 390 Principles of Acting	<i>3 crs.</i>
Prq.: ST 370. Development of appreciation and basic skills in the fundamentals of acting. Exercises, improvisations, and scenes. <i>Assistant Professor Friedman.</i>	
ST 395 Principles of Directing	<i>3 crs.</i>
Prq.: ST 370. Basic knowledge and techniques for the beginning director. Play analysis, composition, movement, characterization and rehearsal. <i>Assistant Professor Friedman.</i>	

ST 400 Creative Techniques for Teaching	3 crs.
Story telling, creative dramatics, role playing, choral speaking, puppets and masks, and other speech arts, and their practical application in teaching various subjects. <i>Associate Professor Barnett and Staff.</i>	
ST 410 Voice and Diction	3 crs.
Analysis of each student's habits of respiration, phonation, and articulation; exercises designed to correct poor habits. Physics and physiology of the vocal mechanism. Training in perception, differentiation, and production of the standard sounds of good American speech. <i>Assistant Professor Dunne.</i>	
ST 420 Children's Theatre	3 crs.
Prq.: ST 370. Theatre for the child audience. Theories applied by assuming responsibility for the production of a play for children on campus and in area schools. <i>Associate Professor Warye.</i>	
ST 430 Theatre History	3 crs.
Trends in dramatic and theatrical developments throughout the world, beginning with ancient Greece and concluding with contemporary drama, with special attention to American theatre. <i>Assistant Professor Levine.</i>	
ST 440 Audiology	3 crs.
Prq.: ST 290, ST 291. Science of hearing: transmission and measurement of sound to the human ear. Anatomy, physiology, and neurology of hearing mechanism. Related pathological conditions. <i>Assistant Professor Dunne.</i>	
ST 450 Communicative Theory	3 crs.
Examination of the communication process: the communicator, message, communicatee and the environment in which a message takes place. Theory and practice. <i>Associate Professor Barnett.</i>	
ST 460 Argumentation and Debate	3 crs.
Prq.: ST 200. The essentials of stating and supporting propositions. Study of forms of debate, and of theories of argument; frequent practice. <i>Miss Miskelly.</i>	
ST 470 Playwriting	3 crs.
Appreciation of the nature of the play as an art form. Analysis of plays of various types; practice in writing. <i>Associate Professor DuBin.</i>	
ST 480 Introduction to Television	3 crs.
Television as a medium of communication in society and in the school. Study of the historical development of broadcasting and the current status of the medium. Active participation in developing skills of performance for use as an educator, civic leader, or professional broadcaster. <i>Associate Professor Warye.</i>	
ST 485 Directing for Television	3 crs.
Prq.: ST 480. Principles and skills involved in the production of units or programs for television presentation. <i>Associate Professor Warye.</i>	
ST 490 Speech Anatomy and Physiology	3 crs.
Examination of the human hearing and vocal mechanisms involved in the speech act and their relationship to various speech disorders. <i>Associate Professor Pitts.</i>	

ST 491 Speech Communication Disorders I**3 crs.**

Prq.: ST 291, 490, and consent of the instructor.

Study of articulation, voice defects, and stuttering with stress placed on the functional aspects. *Mrs. Wuschke.***ST 492 Speech Communication Disorders II****3 crs.**

Prq.: ST 491 and consent of the instructor.

Continuation of Speech Communication Disorders I. Etiology of organic disorders such as voice, aphasia, cerebral palsy, cleft palate, Parkinson's disease, laryngectomy and rehabilitation procedures. *Mrs. Wuschke.***ST 493 Speech Reading and Auditory Training****3 crs.**

Prq.: ST 410 or consent of the instructor.

Habilitative and rehabilitative procedures for the deaf and hard of hearing with emphasis on auditory training, speech reading and speech conservation. *Associate Professor Pitts and Staff.***ST 495 Speech and Theatre Seminar****3 crs.**Study and application of research methods in the area of speech and theatre, with particular emphasis on the individual student's interests in the discipline. Required of all speech and theatre majors. *Associate Professor Warye and Staff.***ST 499 Clinical Practicum****6 crs.**

Prq.: Speech Communication Disorders I and II.

Supervised clinical practice in diagnostics and therapy. *Associate Professor Pitts, Assistant Professor Dunne, Mrs. Wuschke.*

INTERDEPARTMENTAL PROGRAMS

The following interdepartmental programs are offered within the Division of Natural Sciences and Mathematics.

CHEMISTRY—GEOLOGY MAJOR

A major in Chemistry-Geology is offered jointly by the Departments of Chemical Sciences and Earth Sciences and Geography. This program is designed to prepare students for graduate school and professional employment in geo-chemistry and geology. Careers in these fields may involve petroleum, mineral and groundwater exploration, or research in geochronology, mineralogy, crystallography and oceanography. This major is particularly suited to students interested in chemical or geological oceanography. The program is flexible in that it allows the student to specialize in a variety of areas by suitable choice of electives.

Chemistry-Geology majors are required to take the following courses: CH 141, 142 (or CH 131, 132); ES 181, 192, 372. In addition to the above requirements, majors must elect a minimum of two additional semesters of chemistry, two semesters of physics, and two semesters of mathematics. In addition to these electives the student must elect a minimum of six hours of chemistry, earth sciences, mathematics, or physics which have been approved by the student's advisor.

PRE-MEDICAL AND PRE-DENTAL PROGRAMS

Medicine

Although medical schools do not require a major in a particular discipline, they expect applicants to have achieved high academic standing in the fields of biology, chemistry, physics, mathematics, English, and foreign languages. Most students who plan to enter medicine as a profession will find it advisable to major in either biology or chemistry. A student who is interested in medicine should consult both his major advisor and a member of the Pre-medical and Pre-dental Committee early in his freshman year.

Dentistry

While some dental schools admit applicants after three years of college work, most prefer students with a bachelor's degree. As in medicine, there is no requirement for a major in a particular discipline. Most students who plan to enter dentistry as a profession will find it advisable to major in either biology or chemistry. Applicants for dental school should meet the requirements of the major in a given department and must also satisfy the requirements in biology, chemistry, physics, and English as set by each dental school. A student who is interested in dentistry should consult both his major advisor and a member of the Pre-medical and Pre-dental Committee early in his freshman year. Pre-medical and Pre-dental Committee: Wilmon Chipman (Chairman), Kenneth Howe, Walter Morin, Kenneth Sumner.

PROGRAMS IN OCEANOGRAPHY

Programs in oceanography are offered as a cooperative effort of all departments within the Division of Natural Sciences and Mathematics. These programs are designed to prepare students for graduate school or professional employment in oceanography.

Most graduate schools of oceanography require an undergraduate major in biology, chemistry, earth sciences, or physics. All students interested in an oceanography program should major in one of these disciplines. Graduate schools of oceanography expect students to include the following courses in their undergraduate programs: Calculus I and II, Inorganic Chemistry and Qualitative Analysis or General Chemistry, General Physics or elements of Physics, Quantitative Analysis, General Botany, General Zoology, Physical Geology, and Introduction to Oceanography I and II.

These courses, together with one of the majors indicated above, provide a basic foundation for further study in one of the four principal branches of oceanography, i.e.: biological oceanography, chemical oceanography, geological oceanography, and physical oceanography. Additional courses in related areas may be selected by the student with the approval of his major advisor. A student who is interested in oceanography should consult both his major advisor and a member of the Advisory Committee on Oceanography during his freshman year. Advisory Committee on Oceanography: Elizabeth Cirino (Chairman), Robert Boutilier, Henry Daley.

SOCIAL SCIENCES AND BEHAVIORAL SCIENCES

The following interdepartmental programs are offered within the Divisions of the Social Sciences and the Behavioral Sciences. These programs are offered to prepare students for the teaching of Social Studies, History, and Behavioral Sciences in secondary schools.

History—Anthropology

This major is offered jointly by the Departments of Anthropology and History with a minor in Secondary Education in Social Studies.

The course requirements are History 111, 112, 221, and 222 and four elective courses in History; Education 210, 211, 312 and student teaching in History or Social Studies; Anthropology 201 and 205 and six elective courses.

History—Psychology

This major is offered jointly by the Departments of Psychology and History with a minor in Secondary Education in Social Studies.

The course requirements are History 111, 112, 221, and 222 and four elective courses in History; Education 210, 211, 312 and student teaching in History or Social Studies; Psychology 200, 226, 230 and 322 and four elective courses.

History—Sociology

This major is offered jointly by the Departments of Sociology and History with a major in Secondary Education in Social Studies.

The course requirements are History 111, 112, 221, and 222 and four elective courses in History; Education 210, 211, 312 and student teaching in History or Social Studies; Sociology 202, 303, 306, and 400 and four elective courses.

History—Behavioral Sciences

This major is offered jointly by the Divisons of Behavioral Sciences and Social Sciences with a minor in Secondary Education in Social Studies.

The course requirements are History 111, 112, 221, and 222 and four elective courses in History; Education 210, 211, 312 and student teaching in History or Social Studies; Anthropology 201 and 205; Sociology 202 and 306; Psychology 200 and 230 and two elective courses in one of the three Departments.



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The provisions of this bulletin are not an irrevocable contract between the student and the College. The College reserves the right to change any provision or requirement at any time within the student's term of residence. The College further reserves the right to ask the student to withdraw for cause at any time.

DIRECTIONS FOR CORRESPONDENCE

The general address for all correspondence is: Bridgewater State College, Bridgewater, Massachusetts 02324. In order to avoid delay, correspondents are requested to note the following directions.

Requests for undergraduate catalogs should be addressed to the Registrar. Requests for catalogs of the Graduate School should be sent to the Office of the Graduate School.

Requests for brochures of the Division of Continuing Studies should be addressed to the Office of the Division of Continuing Studies.

Inquiries concerning requirements for concentrations and majors in a given department should be addressed to the chairman of that department.

Requests for transcripts should be sent as follows:

Students who hold a bachelor's and/or a master's degree from this college should write to the Registrar.

Students who have not completed their bachelor's degree should write to the Registrar for a transcript of courses taken through the Day Session, and to the Director of Continuing Studies for a transcript of courses taken through the Division of Continuing Studies.

Students who have earned their baccalaureate but who have not completed their master's degree at Bridgewater State College, should write to the Director of Continuing Studies for a transcript of courses taken in the Division of Continuing Studies and to the Registrar for transcripts of courses taken in the Day Session.

There is a charge of \$1.00 per transcript.

Inquiries concerning employment, health services, housing, loans, and scholarships, should be addressed to the Director of Student Personnel.

Inquiries concerning the Summer Session at Bridgewater State College should be addressed to the Director of Continuing Studies.

Inquiries concerning the Summer Session at Hyannis should be addressed to the Director of the Hyannis Summer Session.

Inquiries relative to the Graduate School should be addressed to the Dean of the Graduate School.

Inquiries concerning placement and student teaching should be addressed to the Director of Teacher Preparation and Placement.

Inquiries concerning Continuing Studies should be addressed to the Director of Continuing Studies.

Inquiries concerning financial aid should be addressed to the Financial Aid Officer.

Inquiries concerning alumni affairs should be addressed to the Executive Secretary of the Alumni Association.

Inquiries concerning academic employment should be addressed to the chairman of the appropriate department.

Inquiries concerning non-academic employment should be addressed to the Assistant to the President.

Inquiries concerning teacher certification should be addressed to the Director of Teacher Certification, Department of Education, 182 Tremont Street, Boston, Massachusetts, 02111.

Matters not covered above, and correspondence bearing upon the general interests of the College, should be addressed to the President.

summer session ends
Aug. 15.

BRIDGEWATER STATE COLLEGE
BRIDGEWATER, MASSACHUSETTS 02324